Integrated Control Solutions & Energy Savings

CAREL - a world leader in the Refrigeration and Air Conditioning sectors

CAREL offers the international market standard and custom regulation solutions for Refrigeration and Air Conditioning for the control of temperature & humidity as well as plant management using monitoring, supervisory and telemaintenance systems.

The company was founded in 1973, in the province of Padova, 30km from Venice, in the heart of the Italian north-east, the country's most industrially developed region.

CAREL's high level of technology is demonstrated by many firsts: CAREL was not only the first Italian company to have designed and produced a microprocessor-based control for precision air conditioners, but also the first company in the sector to have used SMD technology and automatic testing procedures (ATE) on 100% of its production.

CAREL ELECTRONIC CONTROLLERS

REFRIGERATION CONTROLS

IR33 Panel Mount (Infrared)

Airefrig Part Number	IR33S0LR00	IR33S0ER00	IR33C0LR00	IR33C0LB00	IR33C0HR00	IR33C0HB00
Controller Type	Thermostat (off cycle defrost)		Thermostat (full defrost management)			
Temperature Range	-50°C to +90°C using standard NTC probe or 0°C to +150°C using high range NTC probe					
Power Supply	12 - 24 Vac/dc	230 Vac	12 - 24 Vac/dc	12 - 24 Vac/dc	115 - 240 Vac	115 - 240 Vac
Defrost Type	Time/Time	Time/Time	Time/Time Time/Temp	Time/Time Time/Temp	Time/Time Time/Temp	Time/Time Time/Temp
Real Time Clock	-	-	-	✓	-	✓
Comp / Control Relay	12 Amp (res.)	8 Amp (res.)	12 Amp (res.)	12 Amp (res.)	12 Amp (res.)	12 Amp (res.)
Evap Fan Relay	-	-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
Alarm / Auxiliary Relay	-	-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
Defrost Relay	-	-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
Control Probe – NTC (Purchase separately)	1	1	1	1	1	1
Probe 2 – NTC (Purchase separately)	1*	1*	1*	1*	1*	1*
Digital Inputs (**can program to be NTC)	2**	1**	2**	2**	2**	2**
Signal Buzzer	✓	✓	✓	✓	✓	✓
Remote Display Option (Purchase separately)	-	-	✓	✓	✓	✓
HACCP Feature	-	-	-	✓	-	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional	Optional	Optional
Decimal Point	Between –19.9 to +19.9ºC	Between –19.9 to +19.9ºC	Between –19.9 to +19.9ºC	Between –19.9 to +19.9ºC	Between –19.9 to +19.9ºC	Between –19.9 to +19.9ºC
Key Programmable Opt. (Key Purchase separately)	✓	✓	✓	✓	✓	✓

* Can be configured to be evaporator (defrost termination), condenser, product or anti-freeze probe.

** Digital inputs can be programmed to be NTC sensors for second evaporator defrost management or condenser fan management with a pre-clean alarm option.

IR32 to IR33 Direct Replacements
IR32S0LBR0 ⇨ IR33S0LR00
IR32S0HBR0 ⇨ IR33S0ER00
IR32C0LBR0 ⇨ IR33C0LR00

Controller Pricing

Airefrig Part Number	IR33S0LR00	IR33S0ER00	IR33C0LR00	IR33C0LB00	IR33C0HR00	IR33C0HB00
List Price - Ex GST	$194.40	$194.40	$291.30	$324.99	$361.59	$392.79

Accessories

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key for IR33, DN33, MasterCella2	$195.81
IROPZ48500	Serial Card IR33	$122.19
IRTRRES000	Remote Control infrared IR33	$44.61
IROPZDSP00	Remote Display Interface IR33	$42.00
IR00XGD000	Remote Display for IR33	$98.43
PSTCON05B0	5m Connector for remote display	$24.78

Airefrig Part Number	Description	List Price Ex GST
861771	Mount Box for IR33 110x110x90	$43.59
861772	Mount Box for IR33 130x130x99	$48.65
RE30	Relay Single Pole 30 Amp 240V	$26.70
TRA12VDE00	Transformer 240V to 12 V 3VA	$26.40
TRA2400000	Transformer 240V to 24 V 3VA	$26.40
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

CAREL ELECTRONIC CONTROLLERS

REFRIGERATION CONTROLS

IR33 Thermometers - Panel Mount (Infrared)

Airefrig Part Number	IR33M00N00	IR33M0ER00
Controller Type	Thermometer	
Temp Range (using NTC probe)	-50ºC to +90ºC with standard probe or 0ºC to +150ºC with high range probe	
Power Supply	12 Vac	240 Vac
Defrost Type	-	-
Real Time Clock	-	-
Comp/Control Relay	-	-
Evap Fan Relay	-	-
Defrost Relay	-	-
Auxiliary 1 Relay	-	-
Light / Aux 2 Rel	-	-
Probe 1 – NTC (Purchase separately)	1	1
Probe 2 – NTC (Purchase separately)	1	1
Digital Inputs	1	1
Signal Buzzer	✓	✓
Remote Display Option (Purchase separately)	-	-
HACCP Feature	-	-
Serial Connection RS485 (Purchase separately)	Optional	Optional
Decimal Point	Between –19.9 to +19.9ºC	
Key Programmable Opt (Purchase separately)	✓	✓

DN33 Din Rail Mount (Infrared^)

DN33S0EN00	DN33S0HA00	DN33C0LR00^	DN33C0HR00^	DN33H0HB00^
Thermostat (off cycle defrost)		Thermostat (full defrost management)		
-50ºC to +90ºC with standard probe or 0ºC to +150ºC with high range probe				
240 Vac	240 Vac	12-24 Vac/dc	240 Vac	240 Vac
Time/Time (at positive temp)		Time/Time Time/Temp		
-	-	-	-	✓
10 Amp (res.)	2HP (10A)	10 Amp (res.)	2HP (10A)	2HP (10A)
-	-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
-	-	10 Amp (res.)	10 Amp (res.)	10 Amp (res.)
-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
-	-	-	-	8 Amp (res.)
1	1	1	1	1
1*	1*	1*	1*	1*
3**	3**	3**	3**	3**
✓	✓	✓	✓	✓
-	-	✓	✓	✓
-	-	-	-	✓
Optional	Optional	Optional	Optional	Optional
Between –19.9 to +19.9ºC				
✓	✓	✓	✓	✓

Controller Pricing

Airefrig Part Number	IR33M00N00	IR33M0ER00
List Price Ex GST	$145.95	$195.96

Controller Pricing

DN33S0EN00	DN33S0HA00	DN33C0LR00	DN33C0HR00	DN33H0HB00
$268.44	$346.86	$329.34	$418.29	$495.12

* Can be configured to be evaporator (defrost termination), condenser, product or anti-freeze probe.

** Digital inputs can be programmed to be NTC sensors for second evaporator defrost management or condenser fan management with a pre-clean alarm option.

IR33 Panel Mount - Accessories

Airefrig Part Number	Description	List Price Ex GST
IROPZ48500	IR33 Serial Card	$122.19
IROPZKEY00	Programming Key	$195.81
IRTRRES000	Remote Control infrared	$44.61
TRA12VDE00	Transformer 240V to 12 V 3VA	$26.40
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

DN33 Din Rail Mount - Accessories

Airefrig Part Number	Description	List Price Ex GST
IROPZSER30	DN33 Serial/Remote Display Card	$74.37
IR00XGD000	Remote Display for DN33	$98.43
PSTCON05B0	5m Connector for remote display	$24.78
IROPZKEY00	Programming Key	$195.81
IRTRRES000	Remote Control infrared	$44.61
TRA12VDE00	Transformer 240V to 12V 3VA	$26.40
TRA2400000	Transformer 240V to 24V 3VA	$26.40
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

CAREL ELECTRONIC CONTROLLERS

REFRIGERATION CONTROLS

powercompact

Airefrig Part Number	PB00H0HB10
Controller Type	Thermostat
Temperature Range (using standard NTC probe)	-50 ºC to +90ºC or 0 ºC to +150ºC
Power Supply	115-230 Vac
Depth	64 mm
Defrost type	Time / Time Time / Temp
Real Time Clock	✓
Comp / Control Relay	2HP (10A)
Evap Fan Relay	8Amp (res.)
Defrost Relay	12Amp (res.)
Aux 1 Relay	8Amp (res.)
Aux 2 Relay	8Amp (res.)
Probe 1 – NTC (Purchase separately) Refer manual for function	1
Probe 2 – NTC (Purchase separately) Refer manual for function	1
Digital Inputs	2
Signal Buzzer	✓
Remote display opt	✓
HACCP	✓
Serial Connection RS485 (Purchase separately)	Optional
Decimal Point	-19.9 to +19.9
Key programming opt	✓

powercompact small

PB00S0SA50	PB00C0SN50
Thermostat	Thermostat
-50 ºC to +90ºC with standard probe or 0 ºC to +150ºC with high range NTC probe	
115-230 Vac	115-230 Vac
40 mm	40 mm
Time / Time (Off cycle)	Time / Time Time / Temp
-	-
12Amp (res.)	12Amp (res.)
-	5Amp (res.)
-	8Amp (res.)
8Amp (res.)	5Amp (res.)
-	-
1	1
1	1
2	2
✓	✓
✓	✓
-	-
Optional	Optional
-19.9 to +19.9	-19.9 to +19.9
✓	✓

powercompact small / wide

PB00S0SAFA	PB00C0SNFA
Thermostat	Thermostat
-50 ºC to +90ºC with standard probe or 0 ºC to +150ºC with high range NTC probe	
115-230 Vac	115-230 Vac
40 mm	40 mm
Time / Time (Off cycle)	Time / Time Time / Temp
-	-
12Amp (res.)	12Amp (res.)
-	5Amp (res.)
-	8Amp (res.)
8Amp (res.)	5Amp (res.)
-	-
1	1
1	1
2	2
✓	✓
✓	✓
-	-
Optional	Optional
-19.9 to +19.9	-19.9 to +19.9
✓	✓

Controller Pricing

Airefrig Part Number	PB00H0HB10
List Price - Ex GST	$373.68

PB00S0SA50	PB00C0SN50
$234.75	$252.09

PB00S0SAFA	PB00C0SNFA
$246.81	P.O.A.

Note: The powercompact small / wide has a blue display.

Accessories for powercompact

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	$195.81
PBOPZCTR00	Large transparent cover	P.O.A.
IROPZ48500	Powercompact Serial Card	$122.19
NTC_____	Sensor NTC (various opts.)	P.O.A.

Accessories for powercompact small / wide

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	$195.81
PBOPZFAC00EA	Stainless Steel Face (each)	$16.04
IROPZ48500	Powercompact Serial Card	$122.19
NTC_____	Sensor NTC (various opts.)	P.O.A.

CAREL ELECTRONIC CONTROLLERS

REFRIGERATION CONTROLS

MasterCella2 (Infrared) - Wall or Panel Mount

Airefrig Part Number	MD33A5ER00	MD33D5EB00
Controller Type	Thermostat (off cycle defrost)	Thermostat (full defrost management)
Temperature Range (using NTC probe)	-50ºC to +90ºC with standard probe or 0ºC to +150ºC with high range probe	
Power Supply	230 Vac	230 Vac
Defrost Type	Time/Time	Time/Time Time/Temp
Real Time Clock	-	✓
Comp / Control Relay	30 Amp (res.)	30 Amp (res.)
Evaporator Fan Relay	-	8 Amp (res.)
Defrost Relay	-	16 Amp (res.)
Auxiliary 1 Relay	8 Amp (res.)	8 Amp (res.)
Light / Auxiliary 2 Relay	2 HP	2 HP
Control Probe – NTC (Purchase separately)	1	1
Probe 2 – NTC (Purchase separately)	1*	1*
Digital Inputs (**can program to be NTC)	3**	3**
Signal Buzzer	✓	✓
Remote Display Option (Purchase separately)	✓	✓
HACCP Feature	-	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional
Decimal Point	Between –19.9 to +19.9ºC	Between –19.9 to +19.9ºC
Key Programmable Opt. (Purchase separately)	✓	✓

* Can be configured to be evaporator (defrost termination), condenser, product or anti-freeze probe.

** Digital inputs can be programmed to be NTC sensors for second evaporator defrost management or condenser fan management with a pre-clean alarm option.

Controller Pricing

Airefrig Part Number	MD33A5ER00	MD33D5EB00
List Price - Ex GST	$407.43	$498.48

MasterCella2 (Infrared) - Accessories

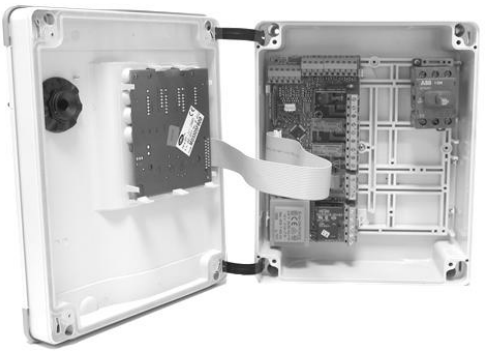
Airefrig Part Number	Description	List Price Ex GST
IROPZSEM30	MD33 Serial/ Remote Disp. Card	$76.11
IR00XGD000	Remote Display for IR33	$98.43
PSTCON1000	10m Connector for remote display	P.O.A.
IROPZKEY00	Programming Key	$195.81
IRTRRES000	Remote Control Infrared	$44.61
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

MasterCella2

MasterCella2's flexibility gives a powerful solution for the control of refrigerated rooms and cabinets.

It is based on the IR33 platform range of refrigeration controllers that results in identical programming and the use of common accessories.

- Large space inside dedicated to wiring, relays or other auxiliary devices.
- Cable connection either from top or bottom.
- Buzzer on all models.
- Can be wall or panel mounted.
- Infrared enabled for use with a remote control.
- High efficiency green LED display with icons.
- Keypad locks for individual functions or buttons.
- Pump down management.
- The auxiliary relay can be configured as a second compressor.
- The auxiliary relay can be configured as light.
- Neutral zone management.
- Smart defrost with different operating modes.
- Condenser probe management.
- 2nd evaporator defrosts management.
- Door switch management.
- HACCP feature.



CAREL ELECTRONIC CONTROLLERS

REFRIGERATION CONTROLS

MasterCella Split

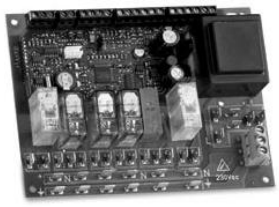
Airefrig Part Number	MTST00V100 (Control Panel)	MTSB000010 (Relay Board)
Controller Type	Thermostat (full defrost management)	
Temperature Range (using standard NTC probe)	-50 to +90ºC	
Power Supply	24Vac (4 VA)	230 Vac
Defrost Type	Time/Time Time/Temp	
Real Time Clock	✓	
Comp / Control Relay	16 Amp res. (SPST) 2HP	
Evap Fan Relay	10 Amp res. (SPST)	
Auxiliary 1 / Light Relay	16 Amp res. (SPST)	
Auxiliary 2 Relay	10 Amp res. (SPST)	
Defrost Relay	16 Amp res. (SPST)	
Alarm Relay	10 Amp res. (SPDT)	
Control Probe – NTC (Purchase separately)	1	
Defrost Probe – NTC (Purchase separately)	1	
Product Probe – NTC (Purchase separately)	1	
Digital Inputs	2	
Buzzer	✓	
HACCP Feature	✓	
Serial Connection RS485 (Purchase separately)	Optional	
Decimal Point	Between –19.9 to +19.9ºC	
Key Programmable Opt. (Key Purchase separately)	✓	

Controller Pricing

Airefrig Part Number	MTST00V100 (Control Panel)	MTSB000010 (Relay Board)
List Price Ex - GST	$ 334.05	$ 420.48

MasterCella Split - Accessories

Airefrig Part Number	Description	List Price Ex GST
FCSER00000	MasterCella Split - Serial Card	P.O.A.
MTSTKIT000	MasterCella Split - Panel Mount Kit	P.O.A.
PSOPZKEY00	M/Cella Split - Programming Key	$195.84
TRA0060000	Transformer 240V to 12/24V 4VA	$28.59
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.



MasterCella *split*

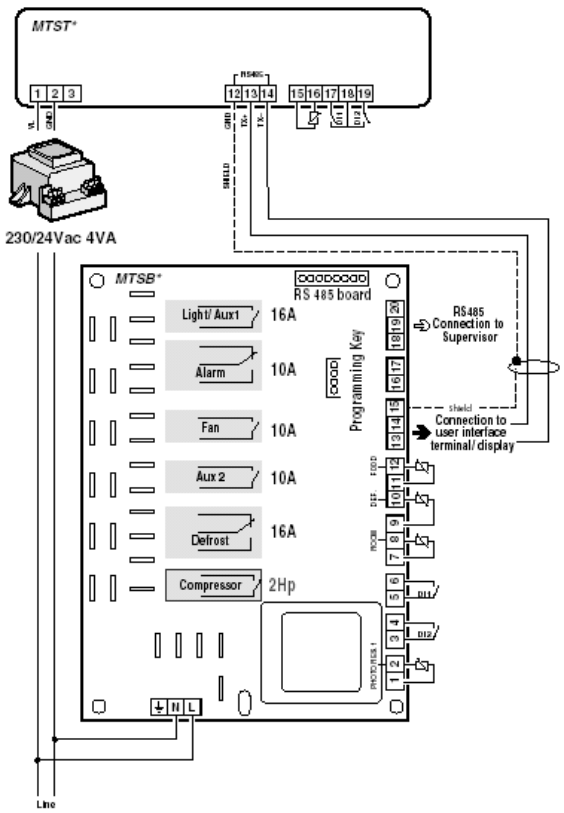
MasterCella *split*: the simple and complete solution for the control of freezer and coolrooms with remote condensing units.

The display control panel can be mounted on the coolroom where the temperature can be seen and the light switch option can be utilized.

RS485 1 pair twisted and shielded cable is required to connect the relay board (MTSB000010) and control panel (MTST00V100) up to a maximum length of 100 metres.

MasterCella Split can be configured using the keypad or alternatively using an electronic programming key.

MasterCella Split has a real time clock that allows defrost cycles to be programmed for set times and also features HACCP. It has six relays for complete control of the compressor (up to 2HP), lights, evaporator fans, defrost heaters, auxiliary outputs and alarms. The relay outputs can be configured either for power switching contacts (230vac) or voltage free contacts.



CAREL ELECTRONIC CONTROLLERS

REFRIGERATION CONTROLS

PJEZ Panel Mount (easy series – replace PJ32)			**PJEZ Compact**	**PJEZ Light switch**	**PJEZ Milk vat**
Airefrig Part Number	PJEZS0H000	PJEZC00000	PJEZSNH0E0	PJS2X0H000	PJS1Y0V000
Controller Type	Thermostat (off cycle defrost)	Thermostat (full defrost management)	Thermostat (off cycle defrost)	Thermostat (off cycle defrost)	Thermostat
Temperature Range	-50 to +90°C	-50 to +90°C	-50 to +90°C	-50 to +90°C	-50 to +90°C
Power Supply	230 Vac	230 Vac	230 Vac	230 Vac	230 Vac
Defrost Type	Time/Time	Time/Time Time/Temp	Time/Time	Time/Time	No defrost
Real Time Clock	-	-	-	-	-
Comp / Control Relay	2HP (10A)	8 Amp res.	2HP (10A)	2HP (10A)	12 Amp res.
Evap Fan Relay	-	8 Amp res.	-	-	-
Defrost Relay	-	8 Amp res.	-	-	-
Auxiliary Relay	-	-	-	Light: 8 A res	Stirrer: 8 A res
Control Probe – NTC (Purchase separately)	1	1	1	1	1
Defrost Probe – NTC (Purchase separately)	1	1	1	-	-
Product Probe – NTC (Purchase separately)	1	1	-	1	1
Digital Inputs	1	1	-	1	-
Signal Buzzer	✓	✓	-	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	-	Optional	Optional
Decimal Point	-19.9 to +19.9	-19.9 to +19.9	-19.9 to +19.9	-19.9 to +19.9	-19.9 to +19.9
Key* Programmable Opt. (Key Purchase separately)	✓	✓	-	✓	✓
Plug-in Terminals	✓	✓	Fixed screw	✓	Fixed screw
Front Panel Mounting	✓	✓	✓	✓	✓

* Program Key (battery powered) allows the controllers to be programmed without having to be connected to a power source.

Controller Pricing

Airefrig Part Number	PJEZS0H000	PJEZC00000	PJEZSNH0E0	PJS2X0H000	PJS1Y0V000
List Price - Ex GST	$163.50	$204.00	$157.50	$213.45	$325.26

Accessories for PJEZ easy

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming key	$195.81
IROPZ485S0	easy serial card	P.O.A.
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

PJEZ Controller

PJEZ Compact Controller

RS485 serial card

Programming key

CAREL ELECTRONIC CONTROLLERS

REFRIGERATION CONTROLS

MX30 – MPXPRO Step 3 Modular Controllers for Supermarket Case Control

Airefrig Part Number	MX30M21HO0	MX30M25HO0
Controller Type	Master (Can be configured as a Slave)	
Temperature Range	-50 to +150^{o}C	-50 to +150^{o}C
Power Supply	230 Vac	230 Vac
Defrost Type	Time/Time Time/Temp	Time/Time Time/Temp
Control Relay (R1)	8 Amp res.	8 Amp res.
Aux3 (Light - R2)	2HP	2HP
Defrost Relay (R3)	16 Amp res.	16 Amp res.
Aux1(Evap Fan - R4)	8 Amp res.	8 Amp res.
Aux2 (Alarm - R5)	8 Amp res.	8 Amp res.
Analogue inputs*	3 to 7	3 to 7
Probe inputs type	NTC, PTC, Pt1000	
Pressure inputs type	Ratiometric (0-5V), 4-20mA, 0-10V	
Digital inputs*	1 to 5	1 to 5
E2V driver	-	✓
PWM valve driver	-	-
0-10V output	-	✓
PWM output (fan/heater)	2	2
Signal Buzzer	✓	✓
Key Programmable Opt. (Key Purchase separately)	✓	✓
Plug-in Terminals	✓	✓
Remote display option	✓	✓

* Some inputs can be set as analogue or digital input.

A **MPXPRO** controller is mounted in each cabinet, with up to 4 slaves managed by one master. The master co-ordinates defrost synchronisation, alarm management & connection to the remote supervisory system if in use.

Controller Pricing

Airefrig Part Number	MX30M21HO0	MX30M25HO0
List Price - Ex GST	P.O.A.	$814.47

Accessories

Airefrig Part Number	Description	List Price Ex GST
IR00UGC300	Terminal (green LED, full optional, IR, commissioning)	$105.57
IRTRMPX000	MPXPRO Remote control	P.O.A.
MXOPZKEYA0	Programming Key for MPXPRO	P.O.A.
PRECONFGMPXPRO	Pre-configuration of MPXPRO	P.O.A.

Airefrig Part Number	Description	List Price Ex GST
TRADRBE240	Transformer for DIN 230Vac / 24Vac 20A with fuse carrier	$136.35
TRA00BE240	Transformer for PANEL 230Vac / 24Vac 20A with fuse carrier	$114.33
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.
SPKT____R0	Sensor ratiometric (0-5V)	P.O.A.

CAREL ELECTRONIC CONTROLLERS

UNIVERSAL TEMPERATURE CONTROLS

IR33*7 Panel Mount (Infrared) Universal Thermostats – Replace IR32 Universal for Temperature

Airefrig Part Number	IR33V7**20	IR33W7**20	IR33Z7**20	IR33D7LR20 ^	IR33A7LR20 ^	IR33E7LR20
Controller Type	1 stage T/stat	2 stage T/stat	4 stage T/stat	1 stage T/stat PWM	4 stage T/stat PWM	2 stage T/stat 2 analogue out
Power Supply	** LR = 12-24 Vac/dc HR = 230Vac			12-24 Vac/dc		
Relay 1	8 Amp res.	8 Amp res.	8 Amp res.	10Vdc for SSR^	10Vdc for SSR^	8 Amp res.
Relay 2	-	8 Amp res.	8 Amp res.	-	10Vdc for SSR^	10Vdc
Relay 3	-	-	8 Amp res.	-	10Vdc for SSR^	8 Amp res.
Relay 4	-	-	8 Amp res.	-	10Vdc for SSR^	10Vdc
Control Probe (Purchase separately)	Standard NTC (-50 to +90°C)	High range NTC (-40 to +150°C)		PTC (-50 to +150°C)	Pt1000 (-50 to +150°C)	
2nd Probe (Purchase separately) Refer manual for function						
Digital Inputs	2	2	2	2	2	2
Signal Buzzer	✓	✓	✓	✓	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional	Optional	Optional
Key Programmable Opt. (Purchase separately)	✓	✓	✓	✓	✓	✓
Decimal Point	✓	✓	✓	✓	✓	✓

Note: The IR33*7 universal temperature controllers can be configured for a lot of different applications. Programming is made easy by 9 selectable operating modes eg: direct (cooling), reverse (heating), dead zone (heating and cooling), alarm, PWM…

^ The basic characteristics of these controllers is the possibility to control the commonly used solid state relays or alternatively the optional Carel CONVONOFF0 & CONV0/10A0 modules. Each output can be connected to a different CONV___ module to operate mixed configurations (relay, 0 to 10Vdc, 4 to 20mA, solid state relay) as well as the ability to use the outputs (up to 4) with PWM (pulse width modulation). These controls offer a range of different applications such as control of ovens, modulating valves, control of ON/OFF actuators or for alarm outputs.

Controller Pricing

Airefrig Part Number	Power Supply Options	List Price Ex GST
IR33V7LR20	12-24 Vac/dc	$276.30
IR33V7HR20	230Vac	$321.51
IR33W7LR20	12-24 Vac/dc	$321.48
IR33W7HR20	230Vac	$366.69
IR33Z7LR20	12-24 Vac/dc	$376.59
IR33Z7HR20	230Vac	$421.65
IR33D7LR20 ^	12-24 Vac/dc	$299.34
IR33A7LR20 ^	12-24 Vac/dc	$408.09
IR33E7LR20	12-24 Vac/dc	P.O.A.

Accessories for IR33 Universal

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	$195.81
IROPZ48500	IR33 Serial Card	$122.19
IRTRUES000	Remote Control Infrared	P.O.A.
TRA12VDE00	Transformer 240V to 12 V 3VA	$26.40
TRA2400000	Transformer 240V to 24 V 3VA	$26.40

Airefrig Part Number	Description	List Price Ex GST
861771	Mount Box for IR32/33 110x110x90	$43.59
861772	Mount Box for IR32/33 130x130x99	$48.65
RE30	Relay Single Pole 30 Amp 240V	$26.70
PTC0150000	Sensor PTC 1.5m cable	$34.86
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

CAREL ELECTRONIC CONTROLLERS

UNIVERSAL TEMPERATURE CONTROLS

DN33*7 Din Rail Mount (Infrared) Universal Thermostats – Replace IRDR universal for Temperature

Airefrig Part Number	DN33V7**20	DN33W7**20	DN33Z7**20	DN33E7LR20
Controller Type	1 stage T/stat	2 stage T/stat	4 stage T/stat	2 stage T/stat 2 analogue out
Power Supply	** LR = 12-24 Vac/dc HR = 230Vac			
Relay 1	8 Amp res.	8 Amp res.	8 Amp res.	8 Amp res.
Relay 2	-	8 Amp res.	8 Amp res.	10Vdc
Relay 3	-	-	8 Amp res.	8 Amp res.
Relay 4	-	-	8 Amp res.	10Vdc
Control Probe (Purchase separately)	Standard NTC, High range NTC, PTC, Pt1000			
2nd Probe (Purchase separately) Refer manual for function				
Digital Inputs	2	2	2	2
Signal Buzzer	✓	✓	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional
Decimal Point	✓	✓	✓	✓
Key Programmable Opt. (Purchase separately)	✓	✓	✓	✓

Note: Programming is made easy by 9 selectable operating modes eg: direct, reverse, dead zone, alarm, PWM…

Controller Pricing

Airefrig Part Number	Power Supply Options	List Price Ex GST
DN33V7LR20	12-24 Vac/dc	$360.99
DN33V7HR20	230Vac	$408.09
DN33W7LR20	12-24 Vac/dc	$391.77
DN33W7HR20	230Vac	$436.95
DN33Z7LR20	12-24 Vac/dc	$428.37
DN33Z7HR20	230Vac	$471.66
DN33E7LR20	12-24 Vac/dc	P.O.A.

DN33 controllers

Accessories for DN33 Universal

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	$195.81
IROPZSER30	DN33 Serial Card	$74.37
IRTRUES000	Remote Control Infrared	P.O.A.
RE30	Relay Single Pole 30 Amp 240V	$26.70
PTC0150000	Sensor PTC 1.5m cable	$34.86
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

CAREL ELECTRONIC CONTROLLERS

UNIVERSAL TEMPERATURE CONTROLS

IR33*9 Panel Mount (Infrared) Universal Thermostats – Replace IR32 Universal for Temperature / Humidity / Pressure

Airefrig Part Number	IR33V9**20	IR33W9**20	IR33Z9**20	IR33D9MR20 ^	IR33A9MR00 ^	IR33E9MR20
Controller Type	1 stage T/stat	2 stage T/stat	4 stage T/stat	1 stage T/stat PWM	4 stage T/stat PWM	2 stage T/stat 2 analogue out
Power Supply	** MR = 24 Vac/dc HR = 230Vac			24 Vac/dc		
Relay 1	8 Amp res.	8 Amp res.	8 Amp res.	10Vdc for SSR^	10Vdc for SSR^	8 Amp res.
Relay 2	-	8 Amp res.	8 Amp res.	-	10Vdc for SSR^	10Vdc
Relay 3	-	-	8 Amp res.	-	10Vdc for SSR^	8 Amp res.
Relay 4	-	-	8 Amp res.	-	10Vdc for SSR^	10Vdc
Control Probe (Purchase separately)	Standard NTC (-50 to +110°C), High range NTC (-10 to +150°C), PTC (-50 to +150°C) Pt1000, Pt100, TCJ/K, 0-1V, -0,5-1,3V, 0-10V, 0-5V Ratiometric, 0-20mA, 4-20mA					
2nd Probe (Purchase separately) Refer manual for function						
Digital Inputs	2	2	2	2	2	2
Signal Buzzer	✓	✓	✓	✓	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional	Optional	Optional
Key Programmable Opt. (Purchase separately)	✓	✓	✓	✓	✓	✓
Decimal Point	✓	✓	✓	✓	✓	✓

Note: The IR33*9 universal controllers can be configured for a lot of different applications. Programming is made easy by 9 selectable operating modes eg: direct, reverse, dead zone, alarm, PWM…

^ The basic characteristics of these controllers is the possibility to control the commonly used solid state relays or alternatively the optional Carel CONVONOFF0 & CONV0/10A0 modules. Each output can be connected to a different CONV___ module to operate mixed configurations (relay, 0 to 10Vdc, 4 to 20mA, solid state relay) as well as the ability to use the outputs (up to 4) with PWM (pulse width modulation). These controls offer a range of different applications such as control of ovens, modulating valves, control of ON/OFF actuators or for alarm outputs.

Controller Pricing

Airefrig Part Number	Power Supply Options	List Price Ex GST
IR33V9MR20	24 Vac/dc	$376.60
IR33V9HR20	230Vac	$421.79
IR33W9MR20	24 Vac/dc	$421.79
IR33W9HR20	230Vac	$466.99
IR33Z9MR20	24 Vac/dc	$477.09
IR33Z9HR20	230Vac	$522.27
IR33D9MR20 ^	24 Vac/dc	P.O.A.
IR33A9MR20 ^	24 Vac/dc	$408.09
IR33E9MR20	24 Vac/dc	$482.75

Accessories for IR33 Universal

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	$195.81
IROPZ48500	IR33 Serial Card	$122.19
IRTRUES000	Remote Control Infrared	P.O.A.
TRA12VDE00	Transformer 240V to 12 V 3VA	$26.40
TRA2400000	Transformer 240V to 24 V 3VA	$26.40

Airefrig Part Number	Description	List Price Ex GST
861771	Mount Box for IR32/33 110x110x90	$43.59
861772	Mount Box for IR32/33 130x130x99	$48.65
RE30	Relay Single Pole 30 Amp 240V	$26.70
PTC0150000	Sensor PTC 1.5m cable	$34.86
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

CAREL ELECTRONIC CONTROLLERS

UNIVERSAL TEMPERATURE CONTROLS

DN33*9 Din Rail Mount (Infrared) Universal Thermostats – Replace IRDR universal for Temperature/Humidity/Pressure

Airefrig Part Number	DN33V9**20	DN33W9**20	DN33Z9**20	DN33E9MR20
Controller Type	1 stage T/stat	2 stage T/stat	4 stage T/stat	2 stage T/stat 2 analogue out
Power Supply	** MR = 24 Vac/dc HR = 230Vac			
Relay 1	8 Amp res.	8 Amp res.	8 Amp res.	8 Amp res.
Relay 2	-	8 Amp res.	8 Amp res.	10Vdc
Relay 3	-	-	8 Amp res.	8 Amp res.
Relay 4	-	-	8 Amp res.	10Vdc
Control Probe (Purchase separately)	Standard NTC (-50 to +110°C), High range NTC (-10 to +150°C), PTC (-50 to +150°C) Pt1000, Pt100, TCJ/K, 0-1V, -0,5-1,3V, 0-10V, 0-5V Ratiometric, 0-20mA, 4-20mA			
2nd Probe (Purchase separately) Refer manual for function				
Digital Inputs	2	2	2	2
Signal Buzzer	✓	✓	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional
Decimal Point	✓	✓	✓	✓
Key Programmable Opt. (Purchase separately)	✓	✓	✓	✓

Note: Programming is made easy by 9 selectable operating modes eg: direct, reverse, dead zone, alarm, PWM…

Controller Pricing

Airefrig Part Number	Power Supply Options	List Price Ex GST
DN33V9MR20	24 Vac/dc	$465.53
DN33V9HR20	230Vac	P.O.A.
DN33W9MR20	24 Vac/dc	$512.64
DN33W9HR20	230Vac	$537.42
DN33Z9MR20	24 Vac/dc	$567.90
DN33Z9HR20	230Vac	$567.90
DN33E9MR20	24 Vac/dc	$548.36

Accessories for DN33 Universal

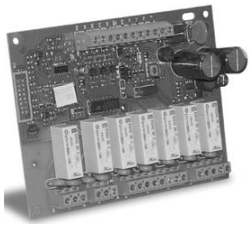
Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	$195.81
IROPZSER30	DN33 Serial Card	$74.37
IRTRUES000	Remote Control Infrared	P.O.A.
RE30	Relay Single Pole 30 Amp 240V	$26.70
PTC0150000	Sensor PTC 1.5m cable	$34.86
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

CAREL ELECTRONIC CONTROLLERS

CONFIGURABLE AIR CONDITIONING CONTROLLER

aria HVAC Configurable Controller

Airefrig Part Number	TAT0000CW0 (Control Panel)	TABASE7000 (Relay Board)
Controller Operation	Parameter **H1** setting dictates what type of control the aria will be. **(see tables below)**	
Temperature Range (using standard NTC probe)	0 to +50^{o}C	
Power Supply	Powered from Relay Board - by 2 wires	24Vac (12VA)
Type of Mounting	Wall Mount	Surface mount (in electrical panel)
Relays	-	7
Internal Sensor in Control Panel	1 x internal sensor (*or remote option)	-
Probe 1 – NTC (Purchase separately)	*1 x sensor (for remote option)	-
Probe 3 – NTC (Purchase separately)	-	De-ice control on outdoor unit
De-Ice	Temp initiate & temp terminate with a min time between cycles	
Multi function relay options (Parameter H2)	-	1 = Alarm 2 = Outdoor Fan 4= Heat/cool indication
Digital Inputs (3)	- For fault - Remote ON/OFF - Heat/Cool selection	
Time Settings (4)	- Off - Day - Night - Unoccupied	
Indoor Fan Control	Auto or Continuous (change by entering into control)	
7 Day Time Clock	✓	
Decimal Point Resolution	0.5^{o}C	
Serial Connection RS485 (Purchase separately)	-	✓ (refer manual)
Key Program Opt. (Key Purchase separately)	✓	
Max Distance Between Control Panel & Relay Board	150 metres	



aria HVAC Controller

Installation is simplified as only a 2 wire cable is needed to connect ***aria*** terminal (located in the room) to its power board, which is located at the air conditioner or fan coil. The three digital inputs on the power board can be configured for a series of functions including: cooling/heating selection, remote ON/OFF, alarm control (generic, filter, low pressure, fan overload, etc).
An additional analogue input can be used for automatic defrost control, energy saving or set point compensation. Parameters can be password protected to prevent non authorised access.

Controller Pricing

Airefrig Part Number	TAT0000CW0 (Control Panel)	TABASE7000 (Relay Board)
List Price Ex - GST	$ 508.83	$ 342.78

aria HVAC Programmable Controller - Accessories

Airefrig Part Number	Description	List Price Ex GST
TRA00BE240	Transformer 240 to 24Vac 20VA	$114.33
TAKEY00000	Programming Key	P.O.A.
DPWT011000	NTC Room Sensor (wall mount)	$104.55
DPDT011000	NTC Duct Sensor	$217.54
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

aria "H1" Parameter Setting Examples

H1 Parameter Setting Mode Examples	Description	Relay 7 SPST	Relay 6 SPST	Relay 5 SPST	Relay 4 SPST	Relay 3 SPST	Relay 2 SPST	Relay 1 SPST
3	3 stage heating only (with economy cycle)	Economy Open	Economy Close	Heat 1	Heat 2	Indoor Fan	Heat 4	Multi Function
4	2 stage cooling only (with economy cycle)	Economy Open	Economy Close	Cool 1	Cool 2	Indoor Fan	Multi Function	Alarm
11	1 comp heat pump (with economy cycle)	Economy Open	Economy Close	Comp	Indoor Fan	Auxiliary Heat	Reversing Valve	Multi Function
12	2 comp heat pump (with 1 stage aux heat)	Comp 1	Comp 2	Indoor Fan	Auxiliary Heat	Multi Function	Reversing Valve	Alarm
14	1 comp heat pump (with 3 speed fan)	Comp 1	Auxiliary Heat	Fan speed 1	Fan speed 2	Fan speed 3	Reversing Valve	Multi Function

(Note: There are another 14 options for the **H1** parameter)

CAREL ELECTRONIC CONTROLLERS

CONFIGURABLE AIR CONDITIONING CONTROLLER

clima is the CAREL proposal for the management of simple air-conditioning and heating systems. The 0 to 10V output can also be connected for the modulating control of the CAREL “compactSteam” humidifier in residential and light commercial applications.

clima comes with a built in temperature or temperature/humidity sensor, one multifunction digital input, up to two relays + one 0 to 10V proportional output for 11 different control modes, including zone control for radiant underfloor installations.
In addition, an outside temperature sensor can be connected for automatic compensation of the temperature and humidity set points.
The Real Time Clock manages a daily time band, and the optional RS485 serial interface completes the product, making it a technologically advanced solution.

clima HVAC Configurable Controller

Airefrig Part Number	ADCA000100	ADCA000210	ADCD000100	ADCF000210
Controller Type	Classic Thermostat	Advanced Thermostat	Classic Humidistat	Advanced Thermostat / Humidistat
Temperature Range	10 ºC to 40ºC	10 ºC to 40ºC	-	10 ºC to 40º
Humidity Range	-	-	10 %rH to 70 %rH	10 %rH to 70 %rH
Power Supply	24 Vac (1VA)			
Relays	1	2	1	2
Analogue output	1	1	1	1
Real Time Clock	-	✓	-	✓
Digital Input	1: heat / cool selection, 2: Remote ON / OFF, 3: Day / Night selection, 4: Alarm from homeSteam			
Decimal point resolution	0.1 ºC	0.1 ºC	1 %rH	0.1 ºC / 1 %rH
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional
Key programming option	✓	✓	✓	✓

General specifications:
Dimension: 135 x 86 x 36 mm.
Type of mounting: wall mount.
Internal sensor in control panel (temperature (NTC) and humidity).
Analogue input for external sensor.

Airefrig Part Number	ADCA000100	ADCA000210	ADCD000100	ADCF000210
List Price Ex GST	P.O.A.	P.O.A.	P.O.A.	$774.20

CAREL ELECTRONIC CONTROLLERS

PHASE SEQUENCE CONTROLLERS

RSF Phase Sequence Controller

Airefrig Part Number	RSF077D000
Power Supply	220 Vac
Changeover contact output relay	240 Vac - 8A
Response Time	80 ms
Consumption	0.8 VA
Dimensions	2 DIN modules (87 x 60 x 36 mm)
Index of protection	IP40
Mounting	DIN rail

Controller pricing

Airefrig Part Number	RSF077D000
List Price - Ex GST	$142.83

This electronic device measures the correct sequence and presence of phases L1, L2, L3 at input. It is fitted with an output relay with changeover contacts.

ANTI SWEAT HEATER CONTROL

ACC is a microprocessor controller that is used to prevent the formation of condensate on cold surfaces, such as display case windows, measuring the dewpoint and consequently heating the cold surface so as to maintain the temperature above the dewpoint. Heating is performed by controlling the voltage applied to door heaters, using phase control integrated into the device.

ACC Anti-sweat Heater Control

Airefrig Part Number	ACC0082100
Power Supply	230 Vac
Analogue Outputs	1 ph control, 0 to 230Vac single-ph, 8A
Analogue Inputs	1 x 0 to 10V, 2 x NTC
Digital Inputs	1
Serial Outputs	1 standard RS485
Dimensions	140 x 135 x 90 mm
Index of protection	IP43

Controller Pricing

Airefrig Part Number	ACC0082100
List Price - Ex GST	$565.41

The controller has the following characteristics:

- Dewpoint calculation
- Manual offset setting
- Programmable digital input (alarm or enabling signal)
- Master / Slave function
- Serial interface for connection to supervisory systems or local network

Accessories for ACC

Airefrig Part Number	Description	List Price Ex GST
NTC060WG00	Glass temperature probe -50 to +105 °C	$76.68
DPWC115000	Wall mount temperature and humidity probe 0 to 50°C (NTC) & 10 to 90 %rH (0-10V) (replaces ASWC115000)	$334.74

FLOOD DETECTION MODULE

The FLOS* flood detector is an electronic device complete with sensor probe designed to detect the presence of water and consequently signal the alarm. The device is typically installed inside the electrical panel, while the probe should be located in the zone being controlled.

FLO Flood Detection Devices

Airefrig Part Number	Description	List Price Ex GST
FLOE000010	Flood controller 24V DIN rail mount	$288.81
FLOR000000	Flood sensor tape (Roll of 25m)	$703.05
FLOS000000	Flood sensor	$71.01

TRAPPED PERSONNEL ALARM KIT

ColdWatch

The trapped personnel alarm kit is a safety system to be fitted in cool rooms & freezer rooms. It allows personnel trapped inside the cold room to call for help by pressing an emergency button and thus activating the audible signal-warning light on the control panel outside.

The system consists of a control unit, a backup battery and an emergency button with light.

The main features are:
- Visual and audible alarm outside the cold room.
- Permanently lit emergency button inside the cold room.
- Backup battery in the event of blackouts.
- Designed in compliance with Australian Building codes board.

Specifications

- Main power supply: 230 Vac 50 Hz
- Operating autonomy:
  With 230 Vac power connected: unlimited
  With fully charged battery: 10h
- Battery: 12 Vdc
- Battery life: 10h
- Visual signal: Flashing red LED
- Sound emitted: 90 dB at 3 m
- Emergency button inside cold room: Red LED, 12Vdc – 25 to 40°C IP67
- Module on outside of cold room: - 10 to 40°C IP43
- Auxiliary relay: 250 Vac 8 Amp AC1 (contact closed with alarm active)

Airefrig Part Number	Description	List Price Ex GST
CM00006236	ColdWatch Person Trapped Alarm	$914.64
KTCWPSENGL	ColdWatch push button spare kit	$141.08

CAREL ELECTRONIC CONTROLLERS

pRACK CONTROLLERS

pRACK - Rack Controller Kits

Airefrig Part Number	Description	Configuration	Relays	Controller Mounting	List Price Ex GST
PRK100X3D0	XXS board kit with on board display	Maximum software configuration (actual will depend on the number of relay outputs etc of the controller see I/O schedule table below) Note: not all sensor inputs are used by the software. Compressors: 12 Unloaders per compressor: 3 Condenser Fans: 16 Sensor inputs for – suction pressure, discharge pressure, refrigerant leak detection sensor, power current transducer. Analogue outputs for control of VSD for compressor and or condenser fans.	7	Din Rail	P.O.A.
PRK100X3DK	XXS board kit with remote PGD display		7		P.O.A.
PRK100S3D0	Small board kit with on board display		8		P.O.A.
PRK100L3B0	Large board kit with on board display		14 + 4 SSR		P.O.A.
PRK100L3DK	Large board kit with remote PGD display		18		P.O.A.

The above controllers are preloaded with the Carel standard pRack control software.
Note: The maximum configuration of the rack software (also depends on the actual hardware configuration of the controller) is Compressors: 12, Unloaders: 3 per compressor, Condenser Fans: 16, Alarm: 1.
2 x 240/24V transformers are required, VA rating depends on how many PCO's are connected.
These transformers cannot power other devices.

pRack inputs / outputs schedule

Controller	Analogue Inputs	Digital Inputs	Digital (relay) Outputs	Analogue Outputs
XXS	2+6*	2	7	1+1 PWM
Small	3+2*	8	8	4
Large	6+4*	14+4(230V)	18 or 14+4SSR	6

*Can also be used as digital input

CAREL ELECTRONIC CONTROLLERS

FAN SPEED CONTROLLER

FCS - Power Board Slave 230V Single Phase

Airefrig Part Number	FCSM042300	FCSM082300	FCSM122300
Power Supply	230V	230V	230V
Control Signal	0 to 10Vdc		
Index of protection	IP00 (open board)		
Rated current	4A	8A	12A
Peak current	4 x r.current	3 x r.current	3 x r.current

FCS 1 ph

Controller pricing

Airefrig Part Number	FCSM042300	FCSM082300	FCSM122300
List Price - Ex GST	P.O.A.	$303.27	$369.60

FCS - Power Board Slave 415V Three Phase

Airefrig Part Number	FCS3064000	FCS3124000	FCS3204000	FCS3404010
Power Supply	415V	415V	415V	415V
Control Signal	0 to 10Vdc or PWM for			
Index of protection	IP55	IP55	IP55	IP20
Rated current	6A	12A	20A	40A
Peak current	3 x r.current	3 x r.current	3 x r.current	3 x r.current

FCS 3 ph IP55

Controller pricing

Airefrig Part Number	FCS3064000	FCS3124000	FCS3204000	FCS3404010
List Price - Ex GST	$1,635.15	P.O.A.	$2,569.59	$3,387.24

FCS 3 ph IP20

FCP Stand Alone Electronic Fan Speed Controller

Airefrig Part Number	Description	List Price Ex GST
FCPM00A01K	Stand Alone Electronic Fan Speed Controller 8A, 230V kit with pressure sensor 0 to 34 Bar.	$697.95

CAREL ELECTRONIC EXPANSION VALVES & DRIVERS

E2V Electronic Expansion Valves

Airefrig Part Number	Description	List Price Ex GST
E2V05BSF00	EEV with 12mm copper connections - size 05	$401.83
E2V09BSF00	EEV with 12mm copper connections - size 09	$401.82
E2V11BSF00	EEV with 12mm copper connections - size 11	$401.82
E2V14BSF00	EEV with 12mm copper connections - size 14	$401.82
E2V18BSF00	EEV with 12mm copper connections - size 18	$401.82
E2V24BSF00	EEV with 12mm copper connections - size 24	$401.82
E2V30BSF00	EEV with 16mm copper connections - size 30	P.O.A.
E2V35BSM00	EEV with 16mm copper connections - size 35	$401.82

E3V Electronic Expansion Valves

Airefrig Part Number	Description	List Price Ex GST
E3V45ASR00	EEV with 18-22mm copper connections - size 45	$966.87
E3V55ASR00	EEV with 18-22mm copper connections - size 55	$966.66
E3V65ASS00	EEV with 22-28mm copper connections - size 65	$1,054.57

E4V Electronic Expansion Valves

Airefrig Part Number	Description	List Price Ex GST
E4V85AST00	EEV with 22-35mm copper connections - size 85	$1,441.23
E4V95AST00	EEV with 22-35mm copper connections - size 95	$1,595.05

E5V Electronic Expansion Valves

Airefrig Part Number	Description	List Price Ex GST
E5VA5AST00	EEV with 35mm copper connections - size 150	P.O.A.

E6V Electronic Expansion Valves

Airefrig Part Number	Description	List Price Ex GST
E6VB2ASV00	EEV with 42mm copper connections - size 200	$ 2510.68

E7V Electronic Expansion Valves

Airefrig Part Number	Description	List Price Ex GST
E7VC1ASZ00	EEV with 54mm copper connections - size 310	P.O.A.

Accessories for Electronic Expansion Valves

Airefrig Part Number	Description	List Price Ex GST
E2VCAB0300	Electrical connector for E*V with 3m cable IP67	P.O.A.
E2VCABS600	Elec. connector for E*V with 6m cable shielded IP67	$85.74
EEVMAG0000	Tool for manual driving of EEV stepper valve	P.O.A.
E2VSTA0000	E2V Type "A" spare coil	P.O.A.
E2VSTA0200	E2V Type "B" spare coil	$125.54
E3VSTA0000	E3V spare coil	P.O.A.
E4VSTA0000	E4V spare coil	$272.07
E5VSTA0000	E5V spare coil	P.O.A.
E6VSTA0000	E6V spare coil	P.O.A.
E7VSTA0000	E7Vspare coil	P.O.A.

CAREL ELECTRONIC EXPANSION VALVES & DRIVERS

EVD Evolution Electronic Expansion Valve Drivers

Airefrig Part Number	Description	List Price Ex GST
EVD0000E20	Driver for EEV (RS485) - universal valve types	$721.86
EVD0000E50	Driver for EEV (RS485) - CAREL valve types	$478.95
EVD0000T40	Twin Driver for EEV (pLAN) - CAREL valve types	P.O.A.
EVD0000T50	Twin Driver for EEV (RS485) - CAREL valve types	$729.90
EVDIS00EN0	Display for EVD Evolution	$405.90

EVD Evolution Kits

Airefrig Part Number	Description	List Price Ex GST
EVD00N3E2K	EVD Evo Driver Kit - Universal valves including Carel	$1,116.54
EVD00N3E5K	EVD Evo Driver Kit - Carel Valves Only	$823.35

Kits include driver (without display), ratiometric pressure sensor and cable, valve cable and temp sensor.

EVD Evolution Power Solutions Panels

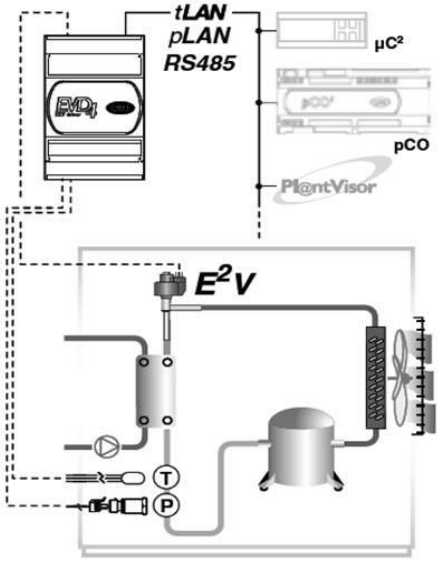
Airefrig Part Number	Description	List Price Ex GST
EDVPN01007	Pre wired panel without Ultracap - Carel Valves Only	$1,560.00
EDVPN01008	Pre wired panel with Ultracap - Carel Valves Only	$2,085.00

Kits include driver (without display), ratiometric pressure sensor and cable, valve cable and temp sensor, already prewired with transformer and circuit breaker in an insulated mounting box.

Accessories for Electronic Expansion Valves Drivers

Airefrig Part Number	Description	List Price Ex GST
EVDCAB0500	EVD4 cable with connections, 5m	P.O.A.
EVD0000UC0	Ultracap module for EVD Evolution	$484.65
CVSTDUTTL0	Converter TTL - USB for EVD4 (com. with PC)	$398.91
CVSTD0TTL0	Converter TTL - 232 for EVD4	P.O.A.
EVDCNV00E0	Converter tLan – USB for EVD Evolution	P.O.A.
NTC_____	NTC sensor (Select suitable option)	P.O.A.
SPKT0013R0	Ratiometric pressure sensor -1 to 9.3 bar	$181.53
SPKC_____	Connector for SPKT	P.O.A.
TRADRBE240	Din rail mount 240/24Vac 20VA transformer	$136.35

Pre-configuration of the drivers is available if required.



CAREL REFRIGERANT DETECTION SENSORS

DPWL Refrigerant Gas Leak Detector

For the detection of CFC, HFC and CO^2 refrigerant gases, CAREL proposes a new range of sensors designed to satisfy all requirements in the fields of industrial refrigeration and air conditioning (supermarkets, shopping centres, other public spaces) on units that require continuous control and monitoring, notifying the system status in order to limit the problems caused by gas leaks.

The sensors are calibrated to measure the most commonly used gases (R22, R134a, R404a, R407c, R410a and CO^2). When leaks above a certain concentration are detected, the sensor sends a signal to the controller or supervisor it is connected to.

The main features are:

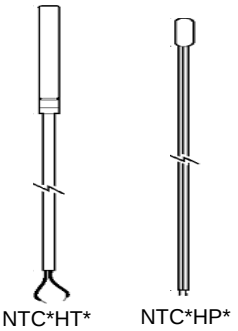
- Available with built in or remote sensor.
- RS485 Modbus connection fitted.
- 24Vac digital relay fitted.
- Analogue outputs available: 0-5V, 1-5V, 0-10V, 2-10V and 4-20mA.
- Local alarm with audible buzzer and red LED light
- CO^2 sensor is infrared

Airefrig Part Number	Description	List Price Ex GST
DPWLA07000	R22 sensor (built in), 0-1000ppm	$912.80
DPWLB07000	R134A sensor (built in), 0-1000ppm	P.O.A.
DPWLC07000	R404A sensor (built in), 0-1000ppm	$912.80
DPWLD07000	R407C sensor (built in), 0-1000ppm	P.O.A.
DPWLE07000	R410A sensor (built in), 0-1000ppm	$912.80
DPWL417000	CO^2 sensor (built in), 0-10000ppm	$2,264.36
DPWLA27000	R22 sensor (remote 5m), 0-1000ppm	P.O.A.
DPWLB27000	R134A sensor (remote 5m), 0-1000ppm	P.O.A.
DPWLC27000	R404A sensor (remote 5m), 0-1000ppm	P.O.A.
DPWLD27000	R407C sensor (remote 5m), 0-1000ppm	P.O.A.
DPWLE27000	R410A sensor (remote 5m), 0-1000ppm	P.O.A.
DPWL427000	CO^2 sensor (remote 5m), 0-10000ppm	P.O.A.

CAREL SENSORS & ACCESSORIES

Temperature Sensors

Airefrig Part Number	Description	Temperature Range	Length Metres	List Price Ex GST
NTC015HP03	Sensor NTC Plastic	-50 to +50°C	1.5	$23.79
NTC030HP03			3.0	$31.65
NTC015HT00	Sensor NTC High Temp Plastic (check controller suitability)	0 to +150°C	1.5	$35.58
NTC030HT00			3.0	$41.40
NTC015WH03	Sensor NTC Waterproof	-50 to +90°C	1.5	$34.63
NTC030WH03			3.0	$46.14
NTC060WH03			6.0	P.O.A.
NTC030HF03	Sensor NTC Pl. strap-on	-50 to +90°C	3.0	$37.53
NTC060WG00	Sensor NTC for ACC	-50 to 105°C	6.0	$76.68
NTC060PS00	Product Simulation probe		6.0	$141.86
NTCINF0600	Sensor NTC Insertion S/Steel		6.0 (150mm probe)	$239.10
DPWT011000	Sensor NTC Wall Mount	0 to 50 °C	-	$104.55
PTC0150000	Sensor PTC (not waterproof)	-50 to 130 °C	1.5	$34.86
PT100000A1	Sensor PT100 for IR32_1_000	-70 to 250 °C	3.0	$121.32
PT100000A2	Sensor PT100 for IR32_1_000	0 to 600 °C	3.0	P.O.A.


NTC*HT* NTC*HP*

DPWT

Note: Do not directly immerse sensors into liquids – use a pocket if immersion is required.

Humidity Sensors

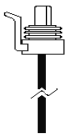
Airefrig Part Number	Description	Range	Output	List Price Ex GST
DPPC110000	Industrial Humidity / Temperature Sensor Wall Mt (replace ASPC110000 and ASPC230000)	-20 to 70 ºC 10 - 90%rH	2 * 4-20mA	$701.16
DPPC210000		-20 to 70 ºC 0 - 100%rH	2 * 4-20mA	$1,094.64
DPWC111000	Commercial Humidity sensor (replaces ASCW111000)	-50 to 90 ºC 0 - 100%rH	NTC 4-20mA	$326.46

DPPC DPWC

Pressure Transmitters

Airefrig Part Number	Description	Range	Output	Connections	List Price Ex GST
SPKT0021C3	Pressure Transmitter (requires Packard connector SPKC)	-0.5-7 bar	4-20mA	1/4 Female flare + depressor	$244.22
SPKT0011C3		0-10 bar			$244.22
SPKT0031C3		0-30 bar			$244.22
SPKT00B1C3		0-45 bar			$288.23
SPKT00D8C0		0-150 bar		Male con	$327.90
SPKT0053R0	Pressure Transmitter (requires Packard connector SPKC)	-1-4.2 bar	0-5V	1/4 Female flare + depressor	P.O.A.
SPKT0013R3		-1-9.3 bar			$181.52
SPKT0033R3		0-34.5 bar			$288.10
SPKT00B6R3		0-45 bar			$288.10
SPKC002313	Packard Connector for SPKT/W 2m cable IP65				$29.46
SPKC005313	Packard Connector for SPKT/W 5m cable IP65				$44.31

Pressure Transmitter


Packard Connector

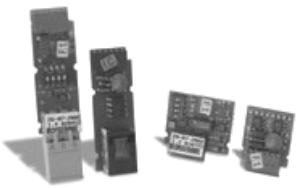
Sensor Pockets

Airefrig Part Number	Description	List Price Ex GST
NTCSOBS003	Brass Pocket 8*60mm 1/4 Gas for NTC/PTC sensors	$35.37
NTCSOSS003	Stainless Steel Pocket 1/4 Gas for NTC/PTC sensors	$65.75

CAREL SENSORS & ACCESSORIES

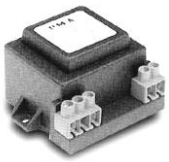
Serial Cards

Airefrig Part Number	Description	List Price Ex GST
IR32SER00E	Serial Card RS485 to suit IR32	P.O.A.
IROPZ48500	Serial Card RS485 to suit IR33, powercompact & PJ easy	$122.19
IROPZSER30	Serial Card RS485 to suit DN33	$74.37
IROPZSEM30	Serial Card RS485 to suit MasterCella2 (MD33)	$76.11
IRDRSER00E	Serial Card RS485 to suit IRDR (requires TC0NN6000 & S90C0NN00)	$140.25
MTCSER0000	Serial Card RS485 to suit MasterCella Compact	$137.64
FCSER00000	Serial Card RS485 to suit MasterCella Split & FCM	P.O.A.
PJOPZ48500	Serial Module RS485 - Din Rail Mount to suit PJ32	$214.92
PCOS004850	Serial Card RS485 to suit pCOXS, pCO1 & pCO3	$345.24
MX3OP48500	Serial Card to suit MPXPRO Step 3	P.O.A.



Transformers

Airefrig Part Number	Description	List Price Ex GST
TRA12VDE00	Transformer 240V to 12 Vac 3VA	$26.40
TRA2400000	Transformer 240V to 24 Vac 3VA	$26.40
TRADR4W024	Din Rail Mount Transformer 240V to 24 Vac 4VA	$72.45
TRA0060000	Transformer 240V to 12/24 Vac 5VA	$28.59
TRADRBE240	Transformer 240V to 24 Vac 20VA DIN with fuse holder	$136.35
TRA00BE240	Transformer 240V to 24 Vac 20VA surface with fuse holder	$114.33
TX40	Transformer 240V to 24 Vac 40VA	$167.67
TX60	Transformer 240V to 24 Vac 60VA	$211.41
TX100	Transformer 240V to 24 Vac 100VA	$284.31
TX150	Transformer 240V to 24 Vac 150VA	P.O.A.
TX300	Transformer 240V to 24 Vac 300VA	P.O.A.



Accessories

Airefrig Part Number	Description	List Price Ex GST
861771	Mounting Box for IR32/33 110 x 110 x 90	$43.59
861772	Mounting Box for IR32/33 130 x 130 x 99	$48.65
RE30	Relay Single Pole 30 Amp 240V	$26.70
TCONN60000	Serial “T” connector (use with IRDR)	$87.90
S90CONN001	Auxiliary board connector (use for IRDRSER – TCONN)	$25.65
IRTRRES000	Remote Control Infrared for IR33 Refrigeration	$44.61
IRTRUES000	Remote Control Infrared for IR33 Universal	P.O.A.
IRTRMPX000	Remote Control Infrared for MPXPRO	P.O.A.
MCHSMLCONM	Pair of female connectors (1 per) eg. µRack etc.	$10.50
MCHSMLCAB0	Kit of 24 x 1m cables & crimp connector (1 per) µRack etc.	$39.21
PJOPZKEY00	Programming Key - PJ (Plug In)	$201.06
MXOPZKEYA0	Programming Key - MPXPRO	P.O.A.
PSOPZKEY00	Programming Key - MasterCella Split, Power Split	$195.84
IROPZKEY00	Programming Key - MD33, DN33, IR33, Pcompact, easy	$195.81
MTSTKIT000	MasterCella Split - Panel Mount Kit	P.O.A.

CAREL HUMIDIFIER

HUMIDISK HUMIDIFIER

humiDisk10/65 is an air humidifier based on the principle of atomising water through centrifugal force. This humidifier can be connected to mains water. humiDisk65 is supplied with an electrical anti-freeze heater. This allows the humiDisk65 to operate at temperature down to -2 °C.
humiDisk10 does not have an electrical anti-freeze heater. The humiDisk10 can work at temperature >= 1 °C.
When turned off (humidistat) the water contained in the humiDisk10/65 runs down into the tank and primes the drain siphon, which empties the small tank.

humiDisk is suitable for applications such as:

- Coolrooms and fresh product storage where lack of humidity leads to loss of weight and product deterioration.
- Printing facilities, where the correct level of humidity must be maintained in order to avoid variations in paper sizes.
- Textile industries, where humidity maintenance is an important factor in production processes etc…

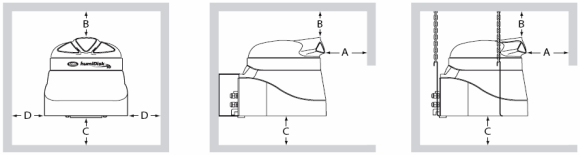
The humiDisk10/65 are controlled by an ON/OFF signal from a humidistat. The humidistat is not part of the humiDisk10/65, it is additional.

How Does It Work?

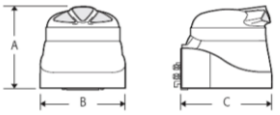
- The motor spins the cone at high speed.
- The cone sucks water into the atomiser disc.
- The disk throws the water to the impact frame where it is atomised into billions of very small droplets.
- The fan then blows the air out of the mist diffuser humidifying the required area.

	humiDisk65	humiDisk10
Airefrig Part Number	UC0650D100	UC0100D000
Operating Conditions	-2ºC to +35ºC & 0 to 90% RH non-condensing	+1ºC to +35ºC & 0 to 90% RH non-condensing
Nominal Water Atomising Capacity	6.5 L/h	1.0 L/h
Humidification Capacity	1.1 to 6.5 L/h	1.0 L/h
Power Supply	230 VAC	230 VAC
Water Temperature Limits	+1ºC to +50ºC	+1ºC to +50ºC
Water Inlet Pressure	100 to 1000 kPa	100 to 1000 kPa
Airflow	280 m³/h	80 m³/h
Total Hardness	Max. 30 ºFH (300ppm CaC03)	Max. 30 ºFH (300ppm CaC03)
Conductivity	100 to 1200 µS/cm	100 to 1200 µS/cm
Water Tank Volume	0.055 litres	0.055 litres
Weight (dry)	17.6 kg	4.3 kg

Distance (m)	A	B	C	D
HumiDisk10	≥2	≥ 0.5	≥ 1.5	≥ 0.5
HumiDisk65	≥3	≥ 1	≥ 1.5	≥ 0.5

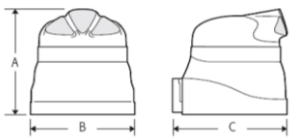


HumiDisk10



A	312 mm
B	302 mm
C	390 mm
Weight	4.3 Kg

HumiDisk65



A	565 mm
B	505 mm
C	610 mm
Weight	17.6 Kg

humiDisk10

1.	Mist Diffuser
2.	Motor
3.	Atomiser Disc
4.	Cone & Fan
5.	Drain Siphon
6.	Main Body
7.	Air Filter

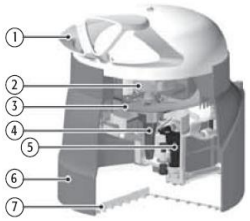


Fig. 1.a

humiDisk65

1.	Air filter
2.	Drain Siphon
3.	Cone & Fan
4.	Motor
5.	Mist Diffuser
6.	Impact Frame
7.	Atomiser Disc
8.	Main Body

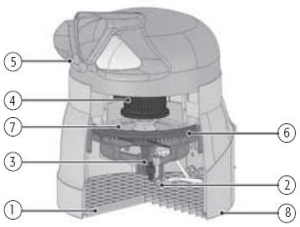


Fig. 1.b

Airefrig Part Number	Description	List Price Ex GST
UC0650D100	Centrifugal Humidifier 6.5 L/h humiDisk65 with antifreeze heater kit included	$6,087.03
UC0100D000	Centrifugal Humidifier 1.0 L/h humiDisk10	P.O.A
UC10KSSP00	Wall mounted bracket for humiDisk10	$127.38
FWH3415000	Water supply hose, 1.5m, 3/4" connection for humiDisk10	$66.93
UCKTS00000	Water drain hose for humiDisk10	$103.11

NOTE: humiDisk65 is supplied with Bracket, supply hose & drain hose

CAREL SUPERVISORY & MONITORING SYSTEMS

PLANTWATCHPRO SUPERVISORY SYSTEM

PlantWatchPRO: The solution for the monitoring and the remote management of small-medium sized installations.

PlantWatchPRO, by CAREL is a PC-free logging and alarm management solution ideal for small to medium sized refrigeration and air conditioning systems where the management and control requirements are the same as in large installations. It is compact and features a large colour graphic display with touch screen function, internal modem, 3 relays for signalling alarms, built-in buzzer and LAN connection.

PlantWatchPRO can manage controllers connected to the RS485 serial line, either using the Modbus® / CAREL communication protocol.

PlantWatchPRO is designed for installers, managers of stores/supermarkets and OEMs.

PlantWatchPRO not only logs important data such as temperatures for HACCP compliance but can also send fax, SMS and e-mail messages in the event of alarms or abnormal operation of the plant.
Remote access can be achieved through dial up, GSM modem or via LAN connection.

Other functions include: scheduler (for scheduled defrost, scheduled on/off of controllers…), user configuration, alarm and event and defrost management, the ability to load and export data (alarms, events and various reports in Excel format) to "USB key, and import new customised instruments or applications, all in a simple, user friendly menu structure. A proximity sensor switches on the display when the user approaches the product, avoiding the need to open the protection cover.

Overview :

- Stand alone device (without need for a computer).
- Records and manages all alarms.
- Records the main set values.
- Can transfer the logged values to a service centre, via modem.
- Can send notification of alarms via fax, SMS, email & generate automatic printed reports.
- Touch screen display and keypad.
- Data can be downloaded to USB memory stick.
- Can show graphs on the display.
- "Guardian" function for better system reliability.
- Its main use is for the supervision of small to medium sized plants.

Note: **PlantWatchPRO** records the values measured by the controllers it is connected to, it is not a stand-alone data logger and is not fitted with its own probes.

Note: We recommend the use of the Belden 8760 cable (1 twisted pair, 18 AWG screened cable with drain wire) for the connection of the RS485 network.

The preconfiguration of the PlantWatchPRO is available if required to make the system even easier to install. Complete a simple form and CAREL will pre-configure your PlantWatchPRO as required.

PlantWatchPRO

Airefrig Part Number	Description	List Price Ex GST
PWPROM0000	PlantWatchPRO 230V with internal modem	$5,543.91

Accessories for PlantWatchPRO

Airefrig Part Number	Description	List Price Ex GST
MODEMGSM	GSM modem for PlantWatchPRO (incl. antenna and DB15 to RJ45 cable)	$1,246.59
PRECONFGPWATCH	Pre configuration of PlantWatchPRO	P.O.A.
IOM0023000	Input / Output Module for RS485 line 230V	$439.44
IOM0002400	Input / Output Module for RS485 line 24V	$439.35

CAREL SUPERVISORY & MONITORING SYSTEMS

PLANTVISORPRO2 SUPERVISORY SYSTEM

PlantVisorPRO2 is a web-server based monitoring and telemaintenance software program that features flexibility of use and easy access to information and alarm management functions.

It is designed for both small installations and large systems such as supermarkets (refrigeration & air conditioning units), cold stores, processing rooms, seasoning rooms, the wine industry etc.

PlantVisorPRO2 features an intuitive, effective and pleasant navigation interface, with advanced characteristics: relational database, user profiling and access control, XML protocol for exchanging data between applications, Modbus®, TCP/IP connectivity, web interface.

Monitoring and energy saving management functions, HACCP reports, alarms management, local and remote connectivity, activity scheduling and controls for instruments or groups of instruments define and complete the features of **PlantVisorPRO2.**

Overview :

- Centralised management of field devices on the PC for parameters display and modification.
- Records and manages all alarms by scheduling the actions to be performed (send fax, SMS, email, activate a relay, call a remote PC…) according to the time band.
- Sampling and recording of the any variable and any active alarm for display or printing.
- Different levels of access to protect access to data.
- Produces detailed and complete graphs, with the possibility to show multiple analogue (temperature) or digital (operating status) values at the same time.
- Allows for connection of up to 200 Carel controllers (per serial line) in a RS485 serial network.
- Manages internal modem for sending faxes, SMS and for remote access using Internet Explorer.
- PlantVisorPRO local can be accessed over LAN / WAN / Internet (subject to security settings in firewall) using Internet Explorer.
- "GuardianPRO" function for better system reliability (double check of the alarms and probe variations).
- Integrated plug-ins for floating suction management, energy consumption analysis and parameter control.

Note: We recommend the use of the Belden 8760 cable (1 twisted pair, 18 AWG screened cable with drain wire) for the connection of the RS485 network.

The preconfiguration of the PlantVisorPRO is available if required to make the system even easier to install. Complete a simple form and CAREL will pre-configure your PlantVisorPRO as required. For a better customization of the system, the creation of floor plan is available as well.

PlantVisorPRO2

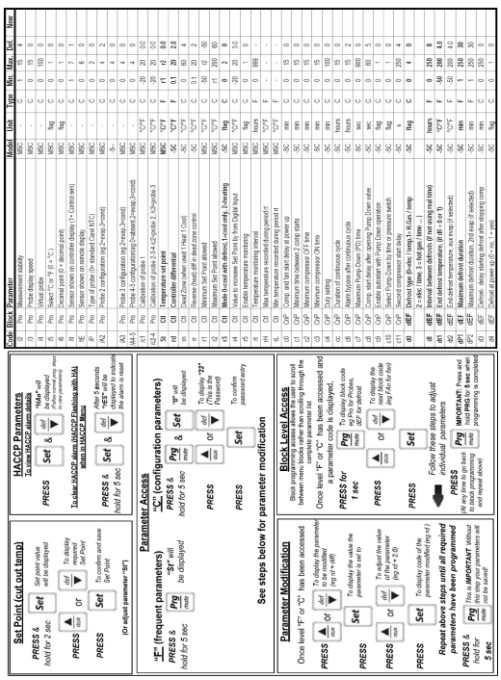
Airefrig Part Number	Description	List Price Ex GST
PP2STGSXE0	PlantVisorPRO2 Box Embedded	$10,355.85
PP2STGSTE0	PlantVisorPRO2 Touch - All in one with touch screen Embedded	P.O.A.

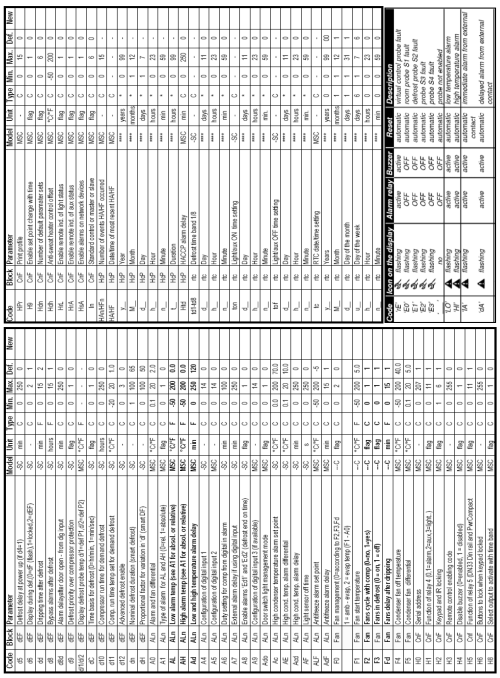
Accessories for PlantVisorPRO2

Airefrig Part Number	Description	List Price Ex GST
PRECONFGPVISOR	Pre configuration of PlantVisorPRO	$607.50
PCACCESSPK	PC Accessory pack - Keyboard, mouse and 19" LCD monitor	$1,326.78
PVUPS00000	Uninterruptible power supply with surge & battery backup protection	P.O.A.
IOM0023000	Input / Output Module for RS485 line 230V	$439.44
IOM0002400	Input / Output Module for RS485 line 24V	$439.35

CAREL

Commonly Used Programming Sheets





CAREL PROGRAMMING SHEETS

IR33 / DN33 / MD33 (MasterCella2) - REFRIGERATION PARAMETER SUMMARY

Set Point (cut out temp)

PRESS & hold for 2 sec — Set — Set point value will be displayed

PRESS — ▲ aux — or — def ▼ — To display required Set Point

PRESS — Set — To confirm and save Set Point

(Or adjust parameter "St")

HACCP Parameters

To view HACCP alarm details

PRESS — Set & def ▼ — "HAn" will be displayed (Follow normal prog. steps to view parameters)

To clear HACCP alarm (HACCP Flashing with HA) when in HACCP Menu

PRESS & hold for 5 sec — Set & def ▼ — After 5 seconds "rES" will be displayed to indicate the alarm is reset

Parameter Access

"F" (frequent parameters)

PRESS & hold for 5 sec — Prg mute — "St" will be displayed

"C" (configuration parameters)

PRESS & hold for 5 sec — Prg mute & Set — "0" will be displayed

PRESS — ▲ aux or def ▼ — To display "22" (This is the Password)

PRESS — Set — To confirm password entry

See steps below for parameter modification

Parameter Modification

Once level "F" or "C" has been accessed

PRESS — ▲ aux or def ▼ — To display the parameter to be modified (eg rd = diff)

PRESS — Set — To display the value the parameter is set to

PRESS — ▲ aux or def ▼ — To adjust the value of the parameter (eg rd = 2.0)

PRESS — Set — To display code of the parameter modified (eg rd)

Repeat above steps until all required parameters have been programmed

PRESS & hold for 5 sec — Prg mute — This is IMPORTANT. Without this step your parameters will not be saved!

Block Level Access

Block programming access allows the user to scroll between menu blocks rather than scrolling through the complete parameter list

Once level "F" or "C" has been accessed and a parameter code is displayed,

PRESS for 1 sec — Prg mute — To display block code eg Pro for Probes, dEF for defrost

PRESS — ▲ aux or def ▼ — To display the next block code (eg FAn for fan)

PRESS — Set

Follow these steps to adjust individual parameters

PRESS (At any time to go back to block programming and repeat above) — Prg mute — IMPORTANT: Press and hold PRG for 5 sec when programming is completed

Code	Block	Parameter	Model	Unit	Type	Min.	Max.	Def.	New
/2	Pro	Measurement stability	MSC	-	C	1	15	4	
/3	Pro	Probe display speed	MSC	-	C	0	15	0	
/4	Pro	Virtual probe	MSC	-	C	0	100	0	
/5	Pro	Select °C or °F (0 = °C)	MSC	flag	C	0	1	0	
/6	Pro	Decimal point (0 = decimal point)	MSC	flag	C	0	1	0	
/tl	Pro	Sensor shown on controller display (1= Control sen)	MSC	-	C	1	7	1	
/tE	Pro	Sensor shown on remote display	MSC	-	C	0	6	0	
/P	Pro	Type of probe (0= standard Carel NTC)	MSC	-	C	0	2	0	
/A2	Pro	Probe 2 configuration (eg 2=evap,3=cond)	MSC	-	C	0	4	2	
			-S-	-	C	0	4	0	
/A3	Pro	Probe 3 configuration (eg 2=evap,3=cond)	MSC	-	C	0	4	0	
/A4-5	Pro	Probe 4-5 configuration(eg 0=absent,2=evap,3=cond)	MSC	-	C	0	4	0	
/c1	Pro	Calibration of probe 1	MSC	°C/°F	C	-20	20	0.0	
/c2-4	Pro	Calibration of probe 2-3-4 /c2=probe 2, /c3=probe 3	MSC	°C/°F	C	-20	20	0.0	
St	Ctl	**Temperature set point**	**MSC**	°C/°F	F	r1	r2	0.0	
rd	Ctl	**Controller differential**	**-SC**	°C/°F	F	0.1	20	2.0	
rn	Ctl	Dead Zone (when used 1 Heat 1 Cool)	-SC	°C/°F	C	0	60	4	
rr	Ctl	Reverse (heat) diff in dead zone control	-SC	°C/°F	C	0.1	20	2	
r1	Ctl	Minimum Set Point allowed	MSC	°C/°F	C	-50	r2	-50	
r2	Ctl	Maximum Set Point allowed	MSC	°C/°F	C	r1	200	60	
r3	Ctl	**Mode 0=cool with defrost,1=cool only, 2=heating**	**-SC**	**flag**	**C**	**0**	**2**	**0**	
r4	Ctl	Value to increase Set Point by from Digital Input	MSC	°C/°F	C	-20	20	3.0	
r5	Ctl	Enable temperature monitoring	MSC	flag	C	0	1	0	
rt	Ctl	Temperature monitoring interval	MSC	hours	F	0	999	-	
rH	Ctl	Max temperature recorded during period rt	MSC	°C/°F	F	-	-	-	
rL	Ctl	Min temperature recorded during period rt	MSC	°C/°F	F	-	-	-	
c0	CnP	Comp. and fan start delay at power up	-SC	min	C	0	15	0	
c1	CnP	Minimum time between 2 comp starts	-SC	min	C	0	15	0	
c2	CnP	Minimum compressor OFF time	-SC	min	C	0	15	0	
c3	CnP	Minimum compressor ON time	-SC	min	C	0	15	0	
c4	CnP	Duty setting	-SC	min	C	0	100	0	
cc	CnP	Duration of continuous cycle	-SC	hours	C	0	15	0	
c6	CnP	Alarm bypass after continuous cycle	-SC	hours	C	0	15	2	
c7	CnP	Maximum Pump-Down (PD) time	-SC	sec	C	0	900	0	
c8	CnP	Comp. start delay after opening Pump Down valve	-SC	sec	C	0	60	5	
c9	CnP	Enable autostart with Pump Down operation	-SC	flag	C	0	1	0	
c10	CnP	Select Pump-Down by time or pressure switch	-SC	flag	C	0	1	0	
c11	CnP	Second compressor start delay	-SC	s	C	0	250	4	
d0	dEF	**Defrost type (0=elec / temp,1= H.Gas / temp**	**-SC**	**flag**	**C**	**0**	**4**	**0**	
		2 = elec / time, 3 = hot gas / time ...)							
dI	dEF	**Interval between defrosts (if not using real time)**	**-SC**	**hours**	**F**	**0**	**250**	**8**	
dt1	dEF	**End defrost temperature, (if d0 = 0 or 1)**	**-SC**	°C/°F	F	**-50**	**200**	**4.0**	
dt2	dEF	End defrost temperature, aux evap (if selected)	-SC	°C/°F	F	-50	200	4.0	
dP1	dEF	**Maximum defrost duration**	**-SC**	**min**	**F**	**1**	**250**	**30**	
dP2	dEF	Maximum defrost duration, 2nd evap (if selected)	-SC	min	F	1	250	30	
d3	dEF	Defrost- delay starting defrost after stopping comp	-SC	min	C	0	250	0	
d4	dEF	Defrost at power up (0 = no, 1 = yes)	-SC	flag	C	0	1	0	

CAREL PROGRAMMING SHEETS

IR33 / DN33 / MD33 (MasterCella2) - REFRIGERATION OPERATING PARAMETERS

Code	Block	Parameter	Model	Unit	Type	Min.	Max.	Def.	New
d5	dEF	Defrost delay at power up (if d4=1)	-SC	min	C	0	250	0	
d6	dEF	Display during def.(0=dF (flash),1=locked,2=dEF)	-SC	-	C	0	2	1	
dd	dEF	Dripping time after defrost	-SC	min	F	0	15	2	
d8	dEF	Bypass alarms after defrost	-SC	hours	F	0	15	1	
d8d	dEF	Alarm delayafter door open - from dig input	-SC	min	C	0	250	0	
d9	dEF	Defrost priority over compressor protection	-SC	flag	C	0	1	0	
d1/d/2	dEF	Display defrost probe temp d/1=def P1,d/2=def P2)	MSC	°C/°F	F	-	-	-	
dC	dEF	Time basis for defrost (0=hr/min, 1=min/sec)	-SC	flag	C	0	1	0	
d10	dEF	Compressor run time for demand defrost	-SC	hours	C	0	250	0	
d11	dEF	Comp. run time temp set for demand defrost	-SC	°C/°F	C	-20	20	1.0	
d12	dEF	Advanced defrost enable	-SC	-	C	0	3	0	
dn	dEF	Nominal defrost duration (smart defrost)	-SC	-	C	1	100	65	
dH	dEF	Proportional factor for variation in 'dI' (smart DF)	-SC	-	C	0	100	50	
A0	ALn	Alarm and fan differential	MSC	°C/°F	C	0.1	20	2.0	
A1	ALn	Type of alarm for AL and AH (0=rel. 1=absolute)	MSC	flag	C	0	1	0	
AL	**ALn**	**Low alarm temp (see A1 for absol. or relative)**	**MSC**	**°C/°F**	**F**	**-50**	**200**	**0.0**	
AH	**ALn**	**High alarm temp (see A1 for absol. or relative)**	**MSC**	**°C/°F**	**F**	**-50**	**200**	**0.0**	
Ad	**ALn**	**Low and high temperature alarm delay**	**MSC**	**min**	**F**	**0**	**250**	**120**	
A4	ALn	Configuration of digital input 1	-SC	-	C	0	14	0	
A5	ALn	Configuration of digital input 2	MSC	-	C	0	14	0	
A6	ALn	Duty setting for comp from digital in alarm	-SC	min	C	0	100	0	
A7	ALn	External alarm delay if using digital input	-SC	min	C	0	250	0	
A8	ALn	Enable alarms 'Ed1' and 'Ed2' (defrost end on time)	-SC	flag	C	0	1	0	
A9	ALn	Configuration of digital input 3 (if available)	MSC	-	C	0	14	0	
Ado	ALn	Door switch light management mode	MSC	flag	C	0	1	0	
Ac	ALn	High condenser temperature alarm set point	-SC	°C/°F	C	0.0	200	70.0	
AE	ALn	High cond. temp. alarm differential	-SC	°C/°F	C	0.1	20	10.0	
Acd	ALn	High cond. temp. alarm delay	-SC	min	C	0	250	0	
AF	ALn	Light sensor off time	-SC	s	C	0	250	0	
ALF	ALn	Antifreeze alarm set point	MSC	°C/°F	C	-50	200	-5	
AdF	ALn	Antifreeze alarm delay	MSC	min	C	0	15	1	
F0	Fan	Fan management (0=according to F2,F3,Fd	--C	flag	C	0	2	0	
		1 = amb - evap, 2 = evap temp (F1 - A0)							
F1	Fan	Fan start temperature	--C	°C/°F	F	-50	200	5.0	
F2	**Fan**	**Fans cycle with comp (0=no, 1=yes)**	**--C**	**flag**	**C**	**0**	**1**	**1**	
F3	**Fan**	**Fans in defrost (0 = on, 1 = off)**	**--C**	**flag**	**C**	**0**	**1**	**1**	
Fd	**Fan**	**Fans delay after dripping**	**--C**	**min**	**F**	**0**	**15**	**1**	
F4	Fan	Condenser fan off temperature	MSC	°C/°F	C	-50	200	40.0	
F5	Fan	Condenser fan differential	MSC	°C/°F	C	0.1	20	5.0	
H0	CnF	Serial address	MSC	-	C	0	207	1	
H1	CnF	Function of relay 4 (0,1=alarm,2=aux,3=light..)	MSC	flag	C	0	11	1	
H2	CnF	Keypad and IR locking	MSC	flag	C	1	6	1	
H3	CnF	Remote control enabling code	MSC	-	C	0	255	0	
H4	CnF	Disable buzzer (0=enabled, 1 = disabled)	MSC	flag	C	0	1	0	
H5	CnF	Function of relay 5 (DN33 Din rail and PwrCompact	MSC	flag	C	0	11	1	
H6	CnF	Buttons to lock when keypad locked	MSC	-	C	0	255	0	
H8	CnF	Select output to activate with time band	MSC	flag	C	0	1	0	

Code	Block	Parameter	Model	Unit	Type	Min.	Max.	Def.	New
HPr	CnF	Print profile	MSC	-	C	0	15	0	
H9	CnF	Enable set point change with time	MSC	flag	C	0	1	0	
Hdn	CnF	Number of default paramater sets	MSC	flag	C	0	6	0	
Hdh	CnF	Anti-sweat heater control offset	MSC	°C/°F	C	-50	200	0	
HtL	CnF	Enable remote ind. of light status	MSC	flag	C	0	1	0	
HrA	CnF	Enable remote ind. of aux status	MSC	flag	C	0	1	0	
HsA	CnF	Enable alarms on network devices	MSC	flag	C	0	1	0	
In	CnF	Standard control or master or slave	MSC	flag	C	0	6	0	
HAn/HFn	HdP	Number of events HA/HF occurred	MSC	-	C	0	15	-	
HA/HF	HdP	Date/time of most recent HA/HF	MSC	-	C	-	-	-	
y__	HdP	Year	****	years	*	0	99	-	
M__	HdP	Month	****	months	*	1	12	-	
d__	HdP	Day	****	days	*	1	7	-	
h__	HdP	Hour	****	hours	*	0	23	-	
n__	HdP	Minute	****	min	*	0	59	-	
t__	HdP	Duration	****	hours	*	0	99	-	
Htd	HdP	HACCP alarm delay	MSC	min	C	0	250	0	
td1-td8	rtc	Defrost time band 1/8	-SC	-	C	-	-	-	
d__	rtc	Day	****	days	*	0	11	0	
h__	rtc	Hour	****	hours	*	0	23	0	
n__	rtc	Minute	****	min	*	0	59	0	
ton	rtc	Light/aux ON time setting	-SC	-	C	-	-	-	
d__	rtc	Day	****	days	*	0	11	0	
h__	rtc	Hour	****	hours	*	0	23	0	
n__	rtc	Minute	****	min.	*	0	59	0	
tof	rtc	Light/aux OFF time setting	-SC	-	C	-	-	-	
d__	rtc	Day	****	days	*	0	11	0	
h__	rtc	Hour	****	hours	*	0	23	0	
n__	rtc	Minute	****	min.	*	0	59	0	
d__	rtc	Day of the month	****	days	1	1	31	1	
u__	rtc	Day of the week	****	days	6	1	7	6	
h__	rtc	Hour	****	hours	0	0	23	0	
n__	rtc	Minute	****	min	0	0	59	0	

Code	Icon on the display	Alarm relay	Buzzer	Reset	Description
'rE'	*flashing*	*active*	*active*	*automatic*	*virtual control probe fault*
'E0'	*flashing*	*OFF*	*OFF*	*automatic*	*room probe S1 fault*
'E1'	*flashing*	*OFF*	*OFF*	*automatic*	*defrost probe S2 fault*
'E2'	*flashing*	*OFF*	*OFF*	*automatic*	*probe S3 fault*
'E3'	*flashing*	*OFF*	*OFF*	*automatic*	*probe S4 fault*
' '	*no*	*OFF*	*OFF*	*automatic*	*probe not enabled*
'LO'	*flashing*	*active*	*active*	*automatic*	*low temperature alarm*
'HI'	*flashing*	*active*	*active*	*automatic*	*high temperature alarm*
'tA'	*flashing*	*active*	*active*	*automatic contact*	*immediate alarm from external*
'dA'	*flashing*	*active*	*active*	*automatic*	*delayed alarm from external contact*

CAREL PROGRAMMING SHEETS

IR32C LOW TEMP REFRIGERATION PARAMETER SUMMARY

	PROBE PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
/0	Type of probe (0 = NTC, 1 = PTC) DO NOT CHANGE	C	0	1	-	0
/C	Calibration	F	-20	+20	°C/°F	0.0
/2	Measurement stability	C	1	15	-	4
/3	Probe reading speed	C	1	15	-	8
/4	Virtual probe	C	0	100		0
/5	°C/°F (0 = °C, 1 = °F)	C	0	1	flag	0
/6	Decimal point (0 = yes, 1 = no)	C	0	1	flag	0

	CONTROL PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
rd	Control differential	F	0.1	+19.9	°C/°F	2
r1	Minimum set point allowed	C	-40	r2	°C/°F	-40
r2	Maximum set point allowed	C	r1	+199	°C/°F	90
r3*	Enable defrost end on time alarm (Ed)	C	0	1	flag	0
r4*	Value to increased set point by when A4 (digital input) = 7	C	0	+20	°C/°F	3.0
r5*	Enable min and max temperature logging (0=no, 1=yes)	C	0	1	flag	0
rt*	Interval of min and max temperature logging.	F	0	199	hours	
rH*	Max temperature monitored during period rt	F	-50	+90	°C/°F	-
rL*	Min temperature monitored during period rt	F	-50	+90	°C/°F	-

	COMPRESSOR PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
c0	Compressor start-up delay after power up	C	0	15	min	0
c1	Minimum interval between two compressor starts	C	0	15	min	0
c2	Minimum compressor off-time	C	0	15	min	0
c3	Minimum compressor on-time	C	0	15	min	0
c4	Duty setting (compressor safety, 0 = OFF, 100 = ON)	C	0	100	min	0
cc	Duration of continuous cycle	C	0	15	hrs	4
C6	Alarm cut-out delay after continuous cycle	C	0	15	hrs	2

	DEFROST PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
d0	Defrost (0=electric,1=hot gas,2*=water/electric by time 3*=hot gas by time)	C	0	3	flag	0
dl	Interval between defrost	F	0	199	hrs	8
dt	Defrost terminate temperature	F	-40	+199	°C/°F	4
dP	Max duration of defrost (time protection) if d0=0,1 or defrost time if d0=2,3	F	1	199	min	30
d4	Defrost on power up (0 = no, 1 = yes)	C	0	1	flag	0
d5	Defrost delay after unit power up or multifunction input	C	0	199	min	0
d6	Display override during defrost (0 = no, 1 = yes)	C	0	1	flag	1
dd	Dripping (drain) time	F	0	15	min	2
d8	Duration of alarm cut-out after defrost and/or opening door	F	0	15	hrs	1
d9	Defrost has priority over compressor protection (0 = no, 1 = yes)	C	0	1	flag	0
d/	Defrost probe reading	F	-	-	°C/°F	-
dC	Time basis (0 = hours/minutes, 1 = minutes/seconds)	C	0	1	flag	0

	ALARM PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
A0	Alarm and fan differential	C	0.1	+20	°C/°F	0.2
AL	Low temperature alarm (deviation from set point)	F	0	+199	°C/°F	0
AH	High temperature alarm (deviation from set point)	F	0	+199	°C/°F	0
Ad	Temperature alarm delay	C	0	199	min	120
A4	Multifunction input one configuration IR32S, Y and C IR32M	C	0	7	-	0
A5	Multifunction input two configuration (IR32_E only)	C	0	7	-	0
A6	Duty setting for external alarm (0 = OFF, 100 = ON)	C	0	100	min	0
A7	External alarm delay (A4 = 2, Multifunction input)	C	0	199	min	0

	FAN PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
F0	Management of fans. 0= according to F2,F3 and Fd, 1= Fan regulator (difference between ambient and evap temp, 2*= Fan regulator (evap temp)	C	0	2	flag	0
F1	Fan turn-off temperature if F0=1 Fans are on when evap temp < (ambient temp - F1 - A0) if F0=2 Fans are on if evap temp < (set point +F1-A0)	F	0	+20	°C/°F	5
F2	Cycle fans with compressor (0 = no, 1 = yes)	C	0	1	flag	1
F3	Stop fans during defrost (0 = no, 1 = yes)	C	0	1	flag	1
Fd	Fan delay (after dripping time)	F	0	15	min	3

	OTHER SETTING	TYPE	MIN	MAX	UNIT	DEF
H0	Address within network	C	0	15	-	0
H1	Mulitfunction output (0 = Auxillary, 1 = Alarm n.c., 2= Alarm n.o.)	C	0	1	flag	1
H2	Access Locking (Keypad and or IR remote)	C	0	3	-	1
H3	Code to permit remote programming	C	0	199	-	0
H4	Disable alarm buzzer 1= Yes 0= No (IR32_E only)	C	0	1	Flag	0

* Only on controllers with serial number >100,000

CAREL PROGRAMMING SHEETS

IR32C LOW TEMP REFRIGERATION PROGRAMMING INSTRUCTIONS

Set Point

PRESS “SEL” & HOLD For 1 Second

“SET POINT” Value will be displayed

PRESS ARROW “UP” or “DOWN” to set the desired value. **

PRESS “SEL” to confirm the value

Frequent (F) Parameters

PRESS & HOLD “PRG” for approx 5 seconds

“/C” will be displayed

A) PRESS “ARROW UP” & “DOWN” to select the parameter to be changed.
eg rd = differential

B) PRESS “SEL”

The Value Set for this parameter will be displayed

C) PRESS ARROW “UP” & “DOWN” to set the desired value.**

D) PRESS “SEL” to confirm the value

REPEAT A-D Until all desired parameter have been set.

PRESS “PRG” To Confirm all Changes
(This is very important)

All Parameters

PRESS & HOLD “PRG” & “SEL” for approx 5 seconds

“00” will be displayed

PRESS “ARROW UP” to enter the password value “22”

PRESS “SEL” to confirm

“/C” will be displayed

A) PRESS “ARROW UP” & “DOWN” to select the code the of parameter to be changed.
eg rd = differential

B) PRESS “SEL”

The Value Set for this parameter will be displayed

C) PRESS “ARROW UP” & “DOWN” to set the desired value.

D) PRESS “SEL” to confirm the value

REPEAT A-D Until all desired parameters have been set.

PRESS “PRG” To Confirm all Changes
(This is very important)

Please Note

Please read these instructions in conjunction with the parameter list.
It is recommended that the controllers be programmed before connecting or activating the plant to be controlled (eg compressors)
** If the controller is keypad locked the value will not change. See parameter H2

CAREL PROGRAMMING SHEETS

PJ32C REFRIGERATION PARAMETER SUMMARY

	PROBE PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
/C	Calibration	F	-127	+127	°C/°F	0.0
/2	Measurement stability	C	1	15	-	4
/4	Probe to be displayed (0= control probe, 1 = food probe (second probe))	C	0	100		0
/5	°C/°F (0 = °C, 1 = °F)	C	0	1	flag	0

	CONTROL PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
rd	Control differential (0 = 0.5 deg C differential)	F	0	+19	°C/°F	2
r1	Minimum set point allowed	C	-50	r2	°C/°F	-50
r2	Maximum set point allowed	C	r1	+127	°C/°F	60
r3	Enable defrost end on time alarm (Ed)	C	0	1	flag	0
r4	Value to change set point by when A4 (digital input) = 4	C	-20	+20	°C/°F	3

	COMPRESSOR PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
c0	Compressor start-up delay after power up	C	0	15	min	0
c1	Minimum interval between two compressor starts	C	0	15	min	0
c2	Minimum compressor off-time	C	0	15	min	0
c3	Minimum compressor on-time	C	0	15	min	0
c4	Duty setting (compressor safety, 0 = OFF, 100 = ON)	C	0	100	min	0
cc	Duration of continuous cycle	C	0	15	hrs	4
c6	Alarm cut-out delay after continuous cycle	C	0	15	hrs	2

	DEFROST PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
d0	Defrost (0=electric,1=hot gas,2*=water/electric by time 3*=hot gas by time)	C	0	3	flag	0
dI	Interval between defrost	F	0	199	hrs	8
dt	Defrost terminate temperature	F	-50	+127	°C/°F	4
dP	Max duration of defrost (time protection) if d0=0,1 or defrost time if d0=2,3	F	1	199	min	30
d4	Defrost on power up (0 = no, 1 = yes)	C	0	1	flag	0
d5	Defrost delay after unit power up or multifunction input	C	0	199	min	0
d6	Display override during defrost (0 = no, 1 = yes)	C	0	1	flag	1
dd	Dripping (drain) time	F	0	15	min	2
d8	Duration of alarm cut-out after defrost and/or opening door	F	0	15	hrs	1
d9	Defrost has priority over compressor protection (0 = no, 1 = yes)	C	0	1	flag	0
d/	Defrost probe reading	F	-	-	°C/°F	-
dC	Time basis (0 = hours/minutes, 1 = minutes/seconds) only for dI, dP	C	0	1	flag	0

	ALARM PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
A0	Alarm and fan differential (0 = 0.5 deg diff)	C	0	+19	°C/°F	0
AL	Low temperature alarm (deviation from set point)	F	0	+127	°C/°F	0
AH	High temperature alarm (deviation from set point)	F	0	+127	°C/°F	0
Ad	Temperature alarm delay	C	0	199	min	0
A7	External alarm delay (A4 = 2, Multifunction input)	C	0	199	min	0

	FAN PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
F0	Management of fans. 0= according to F2,F3 and Fd, 1= Fan regulator (evap temp) F1 = set point	C	0	1	flag	0
F1	Set point for fans	F	-50	+127	°C/°F	5
F2	Cycle fans with compressor (0 = no, 1 = yes)	C	0	1	flag	1
F3	Stop fans during defrost (0 = no, 1 = yes)	C	0	1	flag	1
Fd	Fan delay (after dripping time)	F	0	15	min	1

	OTHER SETTING	TYPE	MIN	MAX	UNIT	DEF
H0	Address within network	C	0	199	-	1
H1	Alarm relay mode (0 = Alarm On relay energised, 1 = Alarm on relay de-energised.) Different for PJ32S	C	0	1	flag	1
H2	Access Locking (0 = Keypad disabled)	C	0	1	flag	1
H5	Identification code for programming key (set by supervisor)	C	-99	99	-	-

CAREL PROGRAMMING SHEETS

PJ32C REFRIGERATION PROGRAMMING INSTRUCTIONS

Set Point

PRESS “SET” & HOLD For 1 Second

“SET POINT” Value will be displayed

PRESS ARROW “UP” & “DOWN”
to set the desired value. **

PRESS “SET” to confirm the value

Frequent (F) Parameters

PRESS & HOLD “SET” for approx 5 seconds

“PS ” will be displayed

A) PRESS “ARROW UP” & “DOWN”
to select the parameter to be changed. eg rd = differential

B) PRESS “SET”

The Value Set for this parameter will be displayed

C) PRESS ARROW “UP” & “DOWN” to set the desired value.**

D) PRESS “SET” to confirm the value

REPEAT A-D Until all desired parameters have been set.

PRESS & HOLD “SET” until temp is displayed (approx 5 seconds) to confirm all changes (This is very important)

All Parameters

PRESS & HOLD “SET” for approx 5 seconds

“PS” will be displayed

PRESS “SET“ then “ARROW UP” to
until the password value “22” is displayed

PRESS “SET” to confirm

“PS” will be displayed

A) PRESS “ARROW UP” & “DOWN” to select the code the parameter to be changed.
eg rd = differential

B) PRESS “SET”

The Value Set for this parameter will be displayed

C) PRESS “ARROW UP” & “DOWN” to set the desired value.

D) PRESS “SET” to confirm the value

REPEAT A-D Until all desired parameters have been set.

PRESS & HOLD “SET” until temp is displayed (approx 5 seconds) to confirm all changes

Please Note

Please read these instructions in conjunction with the parameter list.
It is recommended that the controllers be programmed before connecting or activating the plant to be controlled (eg compressors)
** If the controller is keypad locked the value will not change. See parameter H3

CAREL PROGRAMMING SHEETS

PJ32 UNIVERSAL PARAMETER SUMMARY

	PROBE PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
/2	Measurement stability	C	1	15	-	6
/4	Probe to be displayed (0= sensor 1, 1 = sensor 2	F	0	1	-	0
/5	°C/°F (0 = °C, 1 = °F)	C	0	1	-	0
/6	Display temperature of sensor 2	F	-	-	°C/°F	-
/C	Calibration (tenths of degree without decimal pt) i.e. 2=+0.2 °C offset	F	-127	+127	°C/°F	0.0

	DIFFERENTIAL PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
P1	Controller 1 differential (0 = 0.5 °C)	F	0	+19	°C/°F	3
P2	Controller 2 differential (0 = 0.5 °C)	F	0	+19	°C/°F	3

	CONTROL PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
r1	Controller 1 mode (0 = Direct / 1 = Reverse)	C	0	1	-	0
r2	Controller 2 mode (0 = Direct / 1 = Reverse)	C	0	1	-	0
r3	Minimum set point allowed	C	-50	r4	°C/°F	-50
r4	Maximum set point allowed	C	r3	+150	°C/°F	60
r5	Controller 2 sensor (0 = sensor 1, 1 = sensor 2)	C	0	1	-	0

	CONTROL TIMINGS	TYPE	MIN	MAX	UNIT	DEF
c0	Delay on output energisation at power up	C	0	199	sec	0
c1	Minimum on time for control outputs	C	0	15	min	0
c2	Minimum off time for control outputs	C	0	15	min	0
c3	Interlock outputs (0=no, 1 = yes)	C	0	1	-	0
c4	Minimum time between activation of two different outputs	C	0	199	sec	0

	ALARM PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
A0	Alarm differential (0 = 0.5 deg diff)	C	0	+19	°C/°F	0
AL	Low temperature alarm (absolute value)	F	-50	AH	°C/°F	-50
AH	High temperature alarm (absolute value)	F	AL	+150	°C/°F	150
At	Temperature alarm delay	C	0	199	min	0
Ad	External alarm delay (when digital input is used)	C	0	15	min	0

	DIGITAL INPUT PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
dI	Digital input operating mode 0 = not used, 1 = Alarm (wired normally closed. Open = Alarm) 2 = change set point	C	0	1	flag	0

	OTHER PARAMETERS	TYPE	MIN	MAX	UNIT	DEF
H0	DO NOT CHANGE	C	0	199	-	1
H1	Alarm output status (0 = relay energised with no alarm)	C	0	1	-	0
H2	Output 2 mode (only for 2 relay models) (0 = alarm, 1 = control)	C	0	1	-	1
H3	Disable keypad (0 = disabled)	C	0	1	-	1
H4	Disable buzzer (model specific)	C	0	1	-	0
H5	Identification code for programming key	C	-99	99	-	-

CAREL PROGRAMMING SHEETS

PJ32 UNIVERSAL PROGRAMMING INSTRUCTIONS

Set Point

PRESS “SET” & HOLD For 1 Second

“SET POINT” Value will be displayed

PRESS ARROW “UP” & “DOWN” to set the desired value. **

PRESS “SET” to confirm the value

Frequent (F) Parameters

PRESS & HOLD “SET” for approx 5 seconds

“PS ” will be displayed

A) PRESS “ARROW UP” & “DOWN” to select the parameter to be changed.
eg rd = differential

B) PRESS “SET”

The Value Set for this parameter will be displayed

C) PRESS ARROW “UP” & “DOWN” to set the desired value.**

D) PRESS “SET” to confirm the value

REPEAT A-D Until all desired parameters have been set.

PRESS & HOLD “SET” until temp is displayed (approx 5 seconds) to confirm all changes
(This is very important)

All Parameters

PRESS & HOLD “SET” for approx 5 seconds

“PS” will be displayed

PRESS “SET“ then “ARROW UP” to until the password value “22” is displayed

PRESS “SET” to confirm

“PS” will be displayed

A) PRESS “ARROW UP” & “DOWN” to select the code the parameter to be changed.
eg rd = differential

B) PRESS “SET”

The Value Set for this parameter will be displayed

C) PRESS “ARROW UP” & “DOWN” to set the desired value.

D) PRESS “SEL” to confirm the value

REPEAT A-D Until all desired parameters have been set.

PRESS & HOLD “SET” until temp is displayed (approx 5 seconds) to confirm all changes

Please Note

Please read these instructions in conjunction with the parameter list.
It is recommended that the controllers be programmed before connecting or activating the plant to be controlled (eg compressors)
** If the controller is keypad locked the value will not change. See parameter H3

CAREL PROGRAMMING SHEETS

IR32 UNIVERSAL SERIES IR32 / IRDR V, W, Z, A, D PROGRAMMING INSTRUCTIONS

	CONTROL PARAMETERS	CODE	MIN	MAX	UNIT	DEF
C0	Operating Mode (ie heating, cooling, heat pump etc) C0=**1** All outputs direct logic eg cooling C0=**2** All outputs reverse logic eg heating (default) C0=**3** 1/2 outputs direct 1/2 reverse eg 2 Heat / 2 Cool C0=**5** Alarm Mode,C0=**4,6 - 9** Refer operating instructions	22	1	9		2
P1	Differential 1 (When C0= 1,2,3,4,5,6,7,8,9)	22	0.1	99.9		2
P2	Differential 2 (only when C0= 3,4,5,6,7,8,9 or C33=1)	22	0.1	99.9		2
P3	Dead band (only when C0= 3,4, or 5)	22	0	99.9		2
C4	Compensation Coefficient. (NTC models) Refer manual	77	-2.0	2.0		0.5
C5	Control Action **0**= Proportional **1**= Proportional + Integral	77	0	1		0
C6	Delay between stages starting	77	0	999	sec.	5
C7	Minimum time between starts of the same output	77	0	15	min	0
C8	Minimum off time for each output	77	0	15	min	0
C9	Minimum on time for each output	77	0	15	min	0
C10	Status of the outputs with probe alarm **0**=All OFF, **1**= All ON, **2**= Cool on Heat off, **3**=Cool off heat on	77	0	3		0
C11	Rotation **0**=No rotation,**1** =Stand rotation (all comps), **2**= 2+2 Rotation (2 comps 2 valves-energise valve to increase capacity), **3**=2+2 Rotation (2 comps 2 valves-energise valve to reduce capacity),**4** = only rotate output 3 & 4, **5** = only rotate outputs 1&2, **6** = rotate as pairs (1&2) & (3&4), **7** =rotate outputs 2,3 & 4 (not 1)	77	0	7		0
C12	PWM Cycle time	77	0.2	999	sec	20
C13	Type of sensor -depends on probe input type,refer manual	77	0	1		0
P14	Probe Calibration (offset)	22	-99	+99.9		0
C15	Minimum scaling on analogue inputs (to match sensor)	77	-99	C16		0
C16	Maximum scaling on analogue inputs (to match sensor)	77	C15	999		100
C17	Sensor response	77	1	14		5
C18	Temperature measurement units **0**= deg C, **1**= deg F	77	0	1		0
C19	Second NTC sensor (only on NTC models) **0**= display only of 2nd probe (press arrow down), **1**= Differenial Mode (P1-P2), **2**,**3**,**4**= Compensation (refer user guide)	77	0	4		0
C21	Set Point 1 min value (range locking)	77	-99	C22		
C22	Set Point 1 max value (range locking)	77	C21	999		
C23	Set Point 2 min value (range lock),(only when C0=6,7,8,9)	77	-99	C24		
C24	Set Point 2 max value (range lock),(only when C0=6,7,8,9)	77	C23	999		
P25	Low alarm (absolute value)	22	-99	P26		
P26	High alarm (absolute value)	22	P25	999		
P27	Alarm differential	22	0.1	99.9		2.0
P28	Alarm time delay	22	0	120	min	60
C29	Digital input 1 config, **0**=not used, **1**=Immediate external alarm auto reset, **2**=Immediate external alarm manual reset, **3**=Delayed external alarm(P28), **4**=remote on/off	77	0	4		0
C30	Digital input 2 conf (only IRDR models)settings as per C29	77	0	4		0
C31	Status of outputs with digital input alarm. As per C10	77	0	3		0
C32	Serial address (when connected to network)	77	1	16		1
C33	Do not change- Refer user guide (relates also to C34-C49)	77	0	1		0
C50	Keypad / IR remote locking. **0**= KEYPAD - locked set point and P parameters, IR REMOTE- locked C enabled Set point and P parameters ,**1**= KEYPAD-unlocked,REMOTE-locked C enabled Set point and P parameters, **2**=KEYPAD-locked set point and P parameters, REMOTE-locked,**3**=KEYPAD-unlocked, REMOTE-locked, **4**= KEYPAD and REMOTE unlocked.	77	0	4		4
C51	Code for IR remote - use when more than one controller is close	77	0	120		0

CAREL PROGRAMMING SHEETS

IR32 UNIVERSAL SERIES IR32 / IRDR V, W, Z, A, D PROGRAMMING INSTRUCTIONS

Set Point(s)

PRESS “SEL” & HOLD For 1 Second
“ST1” will be displayed

On releasing the button “SET POINT 1” value will be displayed

PRESS ARROW “UP” or “DOWN” to set the desired value. **

PRESS “SEL” to confirm the value

If there is only 1 set point then the controller will then display the measured variable (eg room temperature).

If the Controller has been programmed for more than 1 set point (see C0) then “ST2” will be displayed.

PRESS ARROW “UP” or “DOWN” to set the desired value for set point 2

PRESS “SEL” to confirm the value

Please Note

Please read these instructions in conjunction with the parameter list.
It is recommended that the controllers be programmed before connecting or activating the plant to be controlled (eg compressors)

** If the controller is keypad locked the value will not change. See parameter C50

Common Parameters (P & C0)

PRESS & HOLD “PRG” & “SEL” for approx 5 seconds

“0” will be displayed

PRESS “ARROW UP” to enter the password value “22”

PRESS “SEL” to confirm

“C0” will be displayed

A) PRESS “ARROW UP” or “DOWN” to select the code for the parameter to be changed.
eg P1 = differential

B) PRESS “SEL”

The Value Set for this parameter will be displayed

C) PRESS “ARROW UP” or “DOWN” to set the desired value.

D) PRESS “SEL” to confirm the value

REPEAT A-D Until all desired parameters have been set.

PRESS “PRG” To Confirm all Changes (This is very Important)

All Parameters

As above but enter password “77”

CAREL PROGRAMMING SHEETS

PJEZ EASY SERIES PROGRAMMING INSTRUCTIONS

Code	Parameter	Unit	Type	Min.	Max.	Def.	New
/2	Probe measurement stability	-	C	1	15	4	
/4	Select display probe	-	F	1	3	1	
/5	Select °C or °F (0 = °C)	-	C	0	1	0	
/6	Decimal point (0 = enabled, 1 = disabled)	-	C	0	1	0	
/C1	Calibration of probe 1	°C/°F	F	-127	+127	0	
/C2	Calibration of probe 2	°C/°F	F	-127	+127	0	
/C3	Calibration of probe 3	°C/°F	F	-127	+127	0	
St	Temperature set point	°C/°F	S	r1	r2	4	
rd	Controller differential	°C/°F	F	0	19	2	
r1	Minimum Set Point allowed	°C/°F	C	-50	r2	-50	
r2	Maximum Set Point allowed	°C/°F	C	r1	+150	90	
r3	Mode 0=cool with defrost,1=cool only, 2=heating	flag	C	0	2	0	
r4	Value to increase Set Point by from Digital Input	°C/°F	C	0	20	3	
c0	Comp. and fan start delay at power up	min	C	0	100	0	
c1	Minimum time between 2 comp starts	min	C	0	100	0	
c2	Minimum compressor OFF time	min	C	0	100	0	
c3	Minimum compressor ON time	min	C	0	100	0	
c4	Duty setting	min	C	0	100	0	
cc	Duration of continuous cycle	hours	C	0	15	4	
c6	Alarm bypass after continuous cycle	hours	C	0	15	2	
d0	Defrost type (0=elec / temp,1= H.Gas / temp	-	C	0	4	0	
	2 = elec / time, 3 = hot gas / time ...)						
dI	Interval between defrosts (if not using real time)	hours	F	0	199	8	
dt	End defrost temperature, (if d0 = 0 or 1)	°C/°F	F	-50	127	4	
dP	Maximum defrost duration	min	F	1	199	30	
d4	Defrost at power up (0 = no, 1 = yes)	-	C	0	1	0	
d5	Defrost delay at power up (if d4=1)	min	C	0	199	0	
d6	Display during def (0=dF (flash),1=locked)	-	C	0	1	1	
dd	Dripping time after defrost	min	F	0	15	2	
d8	Bypass alarms after defrost	hours	F	0	15	1	
d8d	Alarm delayafter door open - from dig input	hours	C	0	250	0	
d9	Defrost priority over compressor protection	-	C	0	1	0	
dy	Display defrost probe temp d/1=def P1, d/2=def P2)	°C/°F	F	-	-	-	
dC	Time basis for defrost (0=hr/min, 1=min/sec)	-	C	0	1	0	
A0	Alarm and fan differential	°C/°F	C	-20	20	0	
AL	Low alarm temp (if A0=<0 absolute, if A0>0 relative)	°C/°F	F	-50	150	-50	
AH	High alarm temp (if A0=<0 absolute, if A0>0 relative)	°C/°F	F	-50	150	150	
Ad	Low and high temperature alarm delay	min	C	0	199	0	
A4	Configuration of digital input 1	-	C	0	11	0	
A7	External alarm delay if using digital input	min	C	0	199	0	
A8	Enable alarms 'Ed1' and 'Ed2' (defrost end on time)	flag	C	0	1	0	
Ac	High condenser temperature alarm set point	°C/°F	C	-50	150	70	

Code	Parameter	Unit	Type	Min.	Max.	Def.	New
AE	High cond. temp. alarm differential	°C/°F	C	0.1	20	5	
Acd	High cond. temp. alarm delay	min	C	0	250	0	
F0	Enable evaporator fan control	flag	C	0	1	0	
F1	Evaporator fan control set point	°C/°F	F	-50	127	5	
F2	Fans cycle with comp (0=no, 1=yes)	flag	C	0	1	1	
F3	Fans in defrost (0 = on, 1 = off)	flag	C	0	1	1	
Fd	Fans delay after dripping	min	F	0	15	1	
H0	Serial address	-	C	0	207	1	
H1	AUX output configuration	flag	C	0	3	0	
H2	Enable keypad (0=enabled, 1 = disabled)	flag	C	0	1	1	
H4	Disable buzzer (0=enabled, 1 = disabled)	flag	C	0	1	0	
H5	ID code (read-only)	flag	F	0	31	-	
EZY	Select set of default parameters	-	C	0	4	0	

EZY parameter

P.JEZ (S, X)	EZY = 1: normal temperature, no defrost
	EZY = 2: normal temperature with timed defrost
	EZY = 3: normal temperature, heating output
	EZY = 4: normal temperature, defrost controlled by temperature (d0 = 4)
P.JEZ (C, Y)	EZY = 1: low temperature with hot gas defrost
	EZY = 2: low temperature with automatic night-time set point variation via digital input
	EZY = 3: low temperature with management of alarm via digital input
	EZY = 4: low temperature, defrost controlled by temperature (d0 = 4)

ALARM TABLE

Alarm code	Buzzer & alarm relay	LED	Description	Parameters involved
E0	active	ON	probe 1 error (control)	-
E1	not active	ON	probe 2 error (defrost)	[d0 = 0/1/4] [F0 = 1]
E2	not active	ON	probe 3 error (cond)	[A4 = 10]
IA	active	ON	external alarm	[A4 = 1] [+A7]
dOR	active	ON	open door alarm	[A4 = 7/8] [+A7]
LO	active	ON	low temperature alarm	[AL] [Ad]
HI	active	ON	high temperature alarm	[AH] [Ad]
EE	not active	ON	unit parameter error	-
EF	not active	ON	operating parameter error	-
Ed	not active	ON	defrost ended by timeout	[dP] [dt] [d4] [A8]
dF	not active	OFF	defrost running	[d6 = 0]
cht	not active	ON	dirty condenser pre-alarm	[A4 = 10]
CHt	active	ON	dirty condenser alarm	[A4 = 10]
EtC	not active	ON	clock alarm	if bands active

CAREL PROGRAMMING SHEETS

PJEZ EASY SERIES PROGRAMMING INSTRUCTIONS

CAREL

PJEZ easy controller

Set Point

PRESS & HOLD "SET" for 1 Second
"SET POINT" Value will be displayed

PRESS ARROW "UP" or "DOWN"
to set the desired value. **

PRESS "SET" to confirm the value

Frequent (F) Parameters

PRESS & HOLD "SET" for
approx 5 seconds

"PS" will be displayed

A) PRESS "ARROW UP" or "DOWN"
to select the parameter to be changed.
eg rd = differential

B) PRESS "SET"

The Value Set for this parameter will
be displayed

C) PRESS ARROW "UP" or
"DOWN" to set the desired value.**

D) PRESS "SET"
to confirm the value

REPEAT A-D Until all desired
parameters have been set.

PRESS & HOLD "SET" until temp is
displayed (approx 5 seconds)
to confirm all changes

All Parameters

PRESS & HOLD "SET"
for approx 5 seconds

"PS" will be displayed

PRESS "SET" then "ARROW UP" till
the password value "22" is displayed

PRESS "SET" to confirm

"PS" will be displayed

A) PRESS "ARROW UP" or "DOWN" to
select the code the of parameter to be
changed. eg rd = differential

B) PRESS "SET"
The Value Set for this parameter will be
displayed

C) PRESS "ARROW UP" or "DOWN"
to set the desired value.

D) PRESS "SET"
to confirm the value

REPEAT A-D Until all desired
parameters have been set.

PRESS & HOLD "SET" until temp is
displayed (approx 5 seconds)
to confirm all changes

Please Note

Please read these instructions in conjunction with the parameter list.
It is recommended that the controllers be programmed before connecting or activating the plant to be controlled (eg compressors)
** If the controller is keypad locked the value will not change. See parameter H2.

CAREL

IR33 Universal Series

Set Point

PRESS & HOLD "SET" for 1 second **"St1"** will be displayed.

On releasing the button the current value of Set point 1 will be displayed.

PRESS ARROW "UP" or "DOWN" to set the desired value for set point 1.**

PRESS "SET" to confirm the value.

If there is only 1 set point then the controller will then display the current value of the measured variable (eg room temperature).

If the controller has been programmed for more than 1 set point (see c0), then "St2" will be displayed.

PRESS ARROW "UP" or "DOWN" to set the desired value for set point 2.

PRESS "SET" to confirm the value.

Please note

Please read these instructions in conjunction with the parameter list.
It is recommended that the controllers be programmed before connecting or activating the plant to be controlled (eg. Compressors…).

** If the controller keypad is locked, the value will note change. See parameter c50.

Literature available

Installation manual: +030220801
Technical leaflets: +050003085 (DN33)
+050003086 (IRDR to DN33)
+050003090 (IR33)
+050003095 (IR32 to IR33)

Frequent parameters (P)

PRESS & HOLD "PRG" for approx 5 seconds.

The first frequent parameter P1 will be displayed.

A) PRESS ARROW "UP" or "DOWN" until reaching the parameter to be modified.

B) PRESS "SET" to display the associated value.

C) PRESS ARROW "UP" or "DOWN" to increase or decrease the value.

D) PRESS "SET" to temporarily save the value.

Repeat the operations A to D to set other parameters.

E) **PRESS & HOLD "PRG"** for 5 seconds to permanently save the new values.

All parameters

PRESS & HOLD "PRG" & "SET" for approx 5 seconds until the displays shows 0.

PRESS ARROW "UP" or "DOWN" to enter the password value "77".

Repeat the operations A to E to set other parameters and save.

Version 2.0 - 17/12/2010

CAREL **IR33 Universal Summary of operating parameters**

Code	Parameter	Unit	Type	Min.	Max.	Def.	New
St1	Set point 1	°C/°F	F	c21	c22	20	
St2	Set point 2	°C/°F	F	c23	c24	40	
c0	Operating mode (ie heating, cooling, alarm…)	-	C	0	9	2	
	1 = all outputs direct (cooling), 2 = all outputs reverse (heating),						
	3 = 1/2 outputs direct 1/2 reverse (cooling and heating),						
	4 = pulse with modulation, 5 = alarm mode, 6 = direct / reverse						
	from digital input 1, 7 = direct with set point change from digital						
	input 1, 8 = reverse with set point change from digital input 1,						
	9 = direct / reverse with 2 set points						
P1	Differential 1	°C/°F	F	0.1	99.9	2.0	
P2	Differential 2	°C/°F	F	0.1	99.9	2.0	
P3	Dead zone differential	°C/°F	F	0	99.9	2.0	
c4	Compensation coefficient (validity mode 1 or 2)	-	C	-2	2	0.5	
c5	Type of control (0 = P, 1 = PI)	-	C	0	1	0	
c6	Delay between stage starting	s	C	0	255	5	
c7	Minimum time between activation of the same output	min	C	0	15	0	
d1	Min. time between deactivation of 2 different outputs	s	C	0	255	0	
c8	Minimum off time for each output	min	C	0	15	0	
c9	Minimum on time for each output	min	C	0	15	0	
c10	Status of control outputs with probe alarm (0 = All off,1 = All on,	-	C	0	3	0	
	2 = Cool on heat off, 3 = Cool off heat on)						
c11	Output rotation	-	C	0	7	0	
c12	PWM cycle time	s	C	0.2	999	20	
c13	Type of probe (note: for IR33*7 models, options 0 to 3 only)	-	C	0	16	0	
	0 = NTC, 1 = NTC high temp, 2 = PTC, 3 = Pt1000, Pt1000 high						
	temp, 5 = Pt100, 6 = Pt100 high temp, 7 = T/couple J, 8 = T/couple						
	J high temp, 9 = T/couple K, 10 = T/couple K high temp, 11 = 0-1						
	Vdc, 12 = -0.5-13Vdc, 13 = 0-10Vdc, 14 = 0-5Vdc ratiometric,						
	15 = 0-20mA, 16 = 4-20mA						
P14	Calibration of probe 1	°C/°F	F	-99	99.9	0	
P15	Calibration of probe 2	°C/°F	F	-99	99.9	0	
c15	Minimum value for probe 1 with current / voltage signal	-	C	-199	c16	0	
c16	Maximum value for probe 1 with current / voltage signal	-	C	c15	800	100	
d15	Minimum value for probe 2 with current / voltage signal	-	C	-199	d16	0	
d16	Maximum value for probe 2 with current / voltage signal	-	C	d15	800	100	
c17	Sensor response (probe disturbance filter)	-	C	1	15	4	
c18	Temperature measurement units (0 = °C, 1 = °F)	-	C	0	1	0	
c19	Operation of probe 2	-	C	0	11	0	
	0 = not enabled, 1 = differential mode, 2 = cooling compensation,						
	3 = heating compensation, 4 = compensation always active,						
	5 = logic on absolute set point, 6 = logic on differential set point,						
	7 = 2 circuits, 8 = control on higher p. value, 9 = control on lower						
	p. value, 10 = control by B2, 11 = auto h/c changeover from B2						
c21	Minimum value of set point 1	°C/°F	C	-199	c22	-50	
c22	Maximum value of set point 1	°C/°F	C	c21	800	110	
c23	Minimum value of set point 2	°C/°F	C	-199	c24	-50	
c24	Maximum value of set point 2	°C/°F	C	c23	800	110	

Code	Parameter	Unit	Type	Min.	Max.	Def.	New
P25	Low temperature alarm threshold on probe 1	°C/°F	F	-199	P26	-50	
P26	High temperature alarm threshold on probe 1	°C/°F	F	P25	800	150	
P27	Alarm differential on probe 1	°C/°F	F	0	99.9	2	
P28	Alarm time delay on probe 1	min	F	0	250	120	
P29	Alarm type on probe 1 (0 = relative, 1 = absolute)	-	F	0	1	1	
P30	Low temperature alarm threshold on probe 2	°C/°F	F	-199	P31	-50	
P31	High temperature alarm threshold on probe 2	°C/°F	F	P30	800	150	
P32	Alarm differential on probe 2	°C/°F	F	0	99.9	2	
P33	Alarm time delay on probe 2	min	F	0	250	120	
P34	Alarm type on probe 2 (0 = relative, 1 = absolute)	-	F	0	1	1	
c29	Digital input 1 configuration	-	C	0	12	0	
	0 = not used, 1 = ext al auto reset circuit 1, 2 = ext al man reset						
	circuit 1, 3 = delayed ext al man reset circuit 1, 4 = ON/OFF,						
	5 = start/stop cycle from button, 6 = override outputs circuit 1,						
	7 = E17 signal delayed, 8 = E17 signal, 9 = ext al auto reset						
	circuit 2, 10 = ext al man reset circuit 2, 11 = delayed ext al man						
	reset circuit 2, 12 = override outputs circuit 2						
c30	Digital input 2 configuration (setting as per c29)	-	C	0	12	0	
c31	Status of control outputs with alarm from DI (0 = All off, 1 = All on,	-	C	0	3	0	
	2 = Heat off others unchanged, 3 = Cool off others unchanged)						
c32	Serial connection address	-	C	0	207	1	
c33	Special operation mode (! DO NOT CHANGE - please refer to	-	C	0	1	0	
	manual for special operation)						
c50	Lock keypad and remote control	-	C	0	2	1	
	0 = keypad disabled remote control enabled, 1 = everything						
	enabled, 2 = everything disabled						
c51	Code for enabling the remote control (0 = no code required)	-	C	0	255	0	
c52	Display (0 = probe 1, 1 = probe 2, 2 = DI 1, 3 = DI 2)	-	C	0	3	0	
	4 = setpoint 1, 5 = setpoint 2, = 6 = probe 1 alternating w probe 2)						
c53	Enable buzzer (0 = enabled, 1 = disabled)	-	C	0	1	0	
c56	Delay at start-up	s	C	0	255	0	
c57	Soft start circuit 1	min/°C	C	0	99	0	
d57	Soft start circuit 2	min/°C	C	0	99	0	
c62	ti_PID1 (integral factor)	s	C	0	999	600	
c63	td_PID1 (derivative factor)	s	C	0	999	0	
d62	ti_PID2 (integral factor)	s	C	0	999	600	
d63	td_PID2 (derivative factor)	s	C	0	999	0	
c64	Auto-tuning (0 = disabled, 1 = enabled)	-	C	0	1	0	
c66	Start enabling interval (note: For IR33*7 Enabling direct threshold)	°C/°F	C	-199	800	-50	
c67	End enabling interval (note: For IR33*7 Enabling reverse threshold)	°C/°F	C	-199	800	150	
c68	Enable cut off operation (0 = enabled, 1 = disabled)	-	C	0	1	0	
P70	Enable operating cycle	-	F	0	3	0	
	0 = disabled, 1 = keypad, 2 = digital input, 3 = real time clock						
P71	Operating cycle: duration of step 1	min	F	0	200	0	
P72	Operating cycle: temperature set point step 1	°C/°F	F	-199	800	0	
P73	Operating cycle: duration of step 2	min	F	0	200	0	
P74	Operating cycle: temperature set point step 2	°C/°F	F	-199	800	0	

Code	Parameter	Unit	Type	Min.	Max.	Def.	New
P75	Operating cycle: duration of step 3	min	F	0	200	0	
P76	Operating cycle: temperature set point step 3	°C/°F	F	-199	800	0	
P77	Operating cycle: duration of step 4	min	F	0	200	0	
P78	Operating cycle: temperature set point step 4	°C/°F	F	-199	800	0	
P79	Operating cycle: duration of step 5	min	F	0	200	0	
P80	Operating cycle: temperature set point step 5	°C/°F	F	-199	800	0	
ton	Switch device ON time setting (Press Set)	-	C	-	-	-	
d	Day	day		0	11	0	
h	Hour	h		0	23	0	
m	Minute	min		0	59	0	
tof	Switch device OFF time setting (Press Set)	-	C	-	-	-	
d	Day	day		0	11	1	
h	Hour	h		0	23	0	
m	Minute	min		0	59	0	
tc	Real Time Clock date/time setting (Press Set)	-	C	-	-	-	
y	Year	year		0	99	0	
M	Month	month		1	12	1	
d	Day of the month	day		1	31	1	
u	Day of the week	day		1	7	1	
h	Hour	hours		0	23	0	
m	Minute	min		0	59	0	

Alarm table

Code	Description	Buzzer	Reset
E01	Probe B1 fault	OFF	Automatic
E02	Probe B2 fault	OFF	Automatic
E03	Digital contact open (immediate alarm)	ON	Automatic
E03	Digital contact open (delayed alarm)	ON	Automatic
E03	Digital contact open (immediate alarm with manual reset)	ON	Manual
E04	High temperature alarm probe 1	ON	Automatic
E05	Low temperature alarm probe 1	ON	Automatic
E06	Real time clock fault	OFF	Automatic / Manual
E07	EEPROM error, unit parameters	OFF	Automatic
E08	EEPROM error, operating parameters	OFF	Automatic
E09	Acquisition error. Reached max time in calculation of PID parameters	ON	Manual
E10	Calculation error. PID gain null	ON	Manual
E11	Calculation error. PID gain negative	ON	Manual
E12	Calculation error. Integral and deriv. time negative	ON	Manual
E13	Acquisition error. Reached max continuous time in calculation of gain	ON	Manual
E14	Error when starting. Situation not suitable	ON	Manual
E15	High temperature alarm probe 2	ON	Automatic
E16	Low temperature alarm probe 2	ON	Automatic
E17	Digital contact open (immediate or delayed alarm, signal only)	OFF	Automatic
E18	Digital contact open (immediate alarm or delayed with reset on circuit 2)	ON	Automatic / Manual
E19	Probe reading error (For IR33*9 only)	OFF	Automatic

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CAREL

MPXPRO Series

Set Point

PRESS & HOLD "SET" for 1 second **"St1"** will be displayed.

On releasing the button the current value of Set point 1 will be displayed.

PRESS ARROW "UP" or "DOWN" to set the desired value for set point 1.**

PRESS "SET" to confirm the value.

Please note

Please read these instructions in conjunction with the parameter list and the installation manual.

It is recommended that the controllers be programmed before connecting or activating the plant to be controlled (eg. Compressors…).

** If the controller keypad is locked, the value will not change. See parameter H2.

Literature available

Installation manual:

+030220186

Technical leaflets:

+050001175 MPXPRO wiring & network connections

+050001185 MPXPRO start-up guide

+050001190 MPXPRO functions, parameters & alarms

Frequent parameters (F)

PRESS & HOLD "PRG" for approx 5 seconds. The first frequent parameter P1 will be displayed.

A) PRESS ARROW "UP" or "DOWN" until reaching the parameter to be modified.

B) PRESS "SET" to display the associated value.

C) PRESS ARROW "UP" or "DOWN" to increase or decrease the value.

D) PRESS "SET" to temporarily save the value.

Repeat the operations A to D to set other parameters.

E) **PRESS & HOLD "PRG"** for 5 seconds to permanently save the new values.

Configuration parameters (C)

PRESS & HOLD "PRG" & "SET" for approx 5 seconds until the displays shows 0.

PRESS ARROW "UP" or "DOWN" to enter the password value "22".

Repeat the operations A to E to set other parameters and save.

Advanced parameters (A)

PRESS & HOLD "PRG" & "SET" for approx 5 seconds until the displays shows 0.

PRESS ARROW "UP" or "DOWN" to enter the password value "33".

Repeat the operations A to E to set other parameters and save.

Version 1.0 - 10/09/2010

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MPXPRO Summary of operating parameters

Code	Block	Parameter	Unit	Type	Min.	Max.	Def.	New
/2	Pro	Analogue probe measurement stability	-	A	1	15	4	
/4	Pro	Virtual probe composition (0=outlet probe Sm/100=inlet probe Sr)	%	C	0	100	0	
/5	Pro	Temperature unit of measure (0=°C / 1=°F)	-	A	0	1	0	
/6	Pro	Display decimal point (0=enabled / 1=disabled)	-	A	0	1	0	
/t	Pro	display signals/alarms on remote disp. (0=enabled / 1=disabled)	-	A	0	1	0	
/t1	Pro	Display on user terminal	-	C	0	14	12	
/t2	Pro	Display on remote display	-	A	0	14	12	
/to	Pro	Configure remote terminal / remote display	-	A	0	3	3	
/P1	Pro	Type of probe group 1 (S1, S2, S3)	-	A	0	3	0	
/P2	Pro	Type of probe group 2 (S4, S5)	-	A	0	3	0	
/P3	Pro	Type of probe group 3 (S6)	-	A	0	4	0	
/P4	Pro	Type of probe group 4 (S7)	-	A	0	6	0	
/P5	Pro	Type of probe group 5:serial probes (S8 to S11)	-	A	0	15	0	
/FA	Pro	Assign outlet temperature probe (Sm)	-	C	0	11	1	
/Fb	Pro	Assign defrost temperature probe (Sd)	-	C	0	11	2	
/Fc	Pro	Assign intake temperature probe (Sr)	-	C	0	11	3	
/Fd	Pro	Assign superheated gas temperature probe (tGS)	-	A	0	11	0	
/FE	Pro	Assign saturated evaporation pressure/temperature probe (Peu/tEu)	-	A	0	11	0	
/FF	Pro	Assign defrost temperature probe 2 (Sd2)	-	A	0	11	0	
/FG	Pro	Assign auxiliary temperature probe 1 (Saux1)	-	A	0	11	0	
/FH	Pro	Assign auxiliary temperature probe 2 (Saux2)	-	A	0	11	0	
/FI	Pro	Assign ambient temperature probe (SA)	-	A	0	11	0	
/FL	Pro	Assign ambient humidity probe (SU)	-	A	0	11	0	
/FM	Pro	Assign glass temperature probe (Svt)	-	A	0	11	0	
/Fn	Pro	Assign dewpoint value (SdP) to a serial probe	-	A	0	4	0	
/c1	Pro	Probe 1 calibration	°C/°F	F	-20	20	0	
/c2	Pro	Probe 2 calibration	°C/°F	F	-20	20	0	
/c3	Pro	Probe 3 calibration	°C/°F	F	-20	20	0	
/c4	Pro	Probe 4 calibration	°C/°F	A	-20	20	0	
/c5	Pro	Probe 5 calibration	°C/°F	A	-20	20	0	
/c6	Pro	Probe 6 calibration		A	-20	20	0	
/c7	Pro	Probe 7 calibration		A	-20	20	0	
/U6	Pro	Maximum value of probe 6	bar/rH%	A	/L6	100	9.3	
/L6	Pro	Minimum value of probe 6	bar/rH%	A	-100	/U6	-1	
/U7	Pro	Maximum value of probe 7	bar/rH%	A	/L7	100	9.3	
/L7	Pro	Minimum value of probe 7	bar/rH%	A	-100	/U7	-1	
OFF	Ctl	On/OFF control (0=ON / 1=OFF)	-	A	0	1	0	
St	Ctl	Set point	°C/°F	F	r1	r2	50	
St2	Ctl	Intake probe set point with "double thermostat"	°C/°F	A	r1	r2	50	
rd	Ctl	Set point differetial for St	°C/°F	F	0.1	20	2	
rd2	Ctl	Set point differetial for St2 with "double thermostat" (0 = disabled)	°C/°F	A	0	20	0	
r1	Ctl	Minimum set point	°C/°F	A	-50	r2	-50	
r2	Ctl	Maximum set point	°C/°F	A	r1	50	50	
r3	Ctl	End defrost signal by timeout (0=disabled / 1=enabled)	-	A	0	1	0	
r4	Ctl	Automatic night-time set point variation	°C/°F	C	-50	50	0	
r5	Ctl	Maximum and minimum temperature monitoring probe	-	A	0	10	0	
rt	Ctl	Duration of the current max and min monitoring session	hour	A	0	999	-	

CAREL

MPXPRO Summary of operating parameters page 2

Code	Block	Parameter	Unit	Type	Min.	Max.	Def.	New
rH	Ctl	Maximum temperature acquired in the session	°C/°F	A	-	-	-	
rL	Ctl	Minimum temperature acquired in the session	°C/°F	A	-	-	-	
r6	Ctl	Probe for night-time control (0=virtual probe / 1=intake probe)	-	C	0	1	0	
ro	Ctl	Control offset with probe error	°C/°F	A	0	20	0	
r7	Ctl	Master solenoid valve configuration (0 = local / 1=network valve)	-	C	0	1	0	
c0	Cmp	Delay enable compressor and evaporator fans on power up	min	A	0	240	0	
c1	Cmp	Minimum time between successive starts	min	A	0	15	0	
c2	Cmp	Minimum OFF time	min	A	0	15	0	
c3	Cmp	Minimum ON time	min	A	0	15	0	
c4	Cmp	ON time for duty setting operation (Toff=15 minutes fixed)	min	A	0	100	0	
cc	Cmp	Running time in continuous cycle	hour	A	0	15	1	
c6	Cmp	Low temperatuer alarm bypass time after continuous cycle	min	A	0	240	60	
c7	Cmp	Defrost priority over continuous cycle (0=no / 1=yes)	-	A	0	1	0	
d0	dEF	Type of defrost (elec 0=temp, 2=time / hot gas 1=temp, 3=time)	-	C	0	6	0	
d2	dEF	End defrost synchronised by master (0=no / 1=synchronised)	-	A	0	1	0	
dI	dEF	Maximum interval between consecutive defrosts	hour	C	0	240	8	
dt1	dEF	End defrost temperature (read by Sd)	°C/°F	F	-50	50	8	
dt2	dEF	End defrost temperature (read by Sd2)	°C/°F	A	-50	50	8	
dP1	dEF	Maximum defrost duration	min	F	1	240	45	
dP2	dEF	Maximum secondary evaporator defrost duration	min	A	1	240	45	
d4	dEF	Defrost on power-up (0=disabled / 1=enabled)	-	A	0	1	0	
d5	dEF	Defrost delay on power-up (if d4=1) (0=delay disabled)	min	A	0	240	0	
d6	dEF	Display on terminals during defrost	-	C	0	2	1	
dd	dEF	Dripping time after defrost (fans off) (0=no dripping)	min	A	0	15	2	
d7	dEF	Skip defrost (0=disabled / 1=enabled)	-	A	0	1	0	
d8	dEF	Bypass high temperature alarm time after defrost and door open	min	C	1	240	30	
d9	dEF	Defrost priority over compressor protection times (0=no / 1=yes)	-	A	0	1	1	
Sd1	dEF	Defrost probe reading	°C/°F	F	-	-	-	
Sd2	dEF	Secondary evaporator defrost probe reading	°C/°F	A	-	-	-	
dC	dEF	Tima base for defrost (0=hours/minutes / 1=minutes/seconds)	-	A	0	1	0	
d10	dEF	Defrost time in "running time" mode (0=function disabled)	min	A	0	240	0	
d11	dEF	Defrost temperature threshold in "running time" mode	°C/°F	A	-50	50	-30	
d12	dEF	Pressure probe alarm management during defrost	-	A	0	3	0	
dS1	dEF	Compressor off time in "sequential stop" defrost mode	min	A	0	45	0	
dS2	dEF	Compressor operating time in "sequential stop" defrost mode	min	A	0	240	120	
ddt	dEF	Additional end defrost temperature delta in "power defrost" mode	°C/°F	A	-20	20	0	
ddP	dEF	Additional maximum defrost time delta in "power defrost" mode	min	A	0	60	0	
dn	dEF	Nominal "skip defrost" duration	%	A	0	100	75	
d1S	dEF	Number of daily defrosts (td1)	-	C	0	14	0	
d2S	dEF	Number of daily defrosts (td2)	-	C	0	14	0	
dH1	dEF	Pump down phase duration (0=pump down disabled)	s	A	0	999	0	
dHG	dEF	Type of multiplexed hot gas defrost	-	A	0	1	0	
AA	Alm	Assign probe for high (AH) and low (AL) temperature alarms	-	F	1	14	1	
AA2	Alm	Assign probe for high (AH2) and low (AL2) temperature alarms	-	A	1	14	1	
A0	Alm	High and low temperature alarm reset differential	°C/°F	F	0.1	20	2	
A1	Alm	Alarm thresholds (AL, AH) type (0=relative to St / 1=absolute)	-	F	0	1	0	
A2	Alm	Alarm thresholds (AL2, AH2) type (0=relative to St2 / 1=absolute)	-	A	0	1	0	

Code	Block	Parameter	Unit	Type	Min.	Max.	Def.	New
AL	Alm	Low temperature alarm threshold	°C/°F	F	-50	50	4	
AH	Alm	High temperature alarm threshold	°C/°F	F	-50	50	10	
AL2	Alm	Low temperature alarm 2 threshold	°C/°F	A	-50	50	0	
AH2	Alm	High temperature alarm 2 threshold	°C/°F	A	-50	50	0	
Ad	Alm	Delay time for high and low temperature alarms	min	F	0	240	120	
A4	Alm	Configuration of digital input DI1 on S4	-	C	0	9	0	
A5	Alm	Configuration of digital input DI2 on S5	-	C	0	9	0	
A6	Alm	Configuration of solenoid/compressor control during ext alarm	min	A	0	100	0	
A7	Alm	Delay time for delayed external alarm	min	C	0	240	0	
A8	Alm	Configuration of function of virtual digital input	-	A	0	8	0	
A9	Alm	Select digital input propagated from master to slaves	-	A	0	5	0	
A10	Alm	Configuration of digital input DI3 on S6	-	C	0	9	0	
A11	Alm	Configuration of digital input DI4 on S7	-	C	0	9	0	
A12	Alm	Configuration of digital input DI5	-	C	0	8	0	
Ar	Alm	Signal alarms from slave to master (0=not enabled / 1=enabled)	-	A	0	1	1	
A13	Alm	Hot gas safety procedure for slave offline	-	A	0	1	0	
F0	Fan	Evaporator fan management (0=always on / 1&2 see manual)	-	C	0	2	0	
F1	Fan	Evaporator fan activation threshold (only if F0=1 or 2)	°C/°F	F	-50	50	-5	
F2	Fan	Evaporator fans with compressor off (0 =see F0 / 1= always off)	-	C	0	1	1	
F3	Fan	Evaporator fans during defrost (0=on / 1=off)	-	C	0	1	1	
Fd	Fan	Post dripping time after defrost (fans off with control active)	min	C	0	15	1	
Frd	Fan	Fan activation differential (inclluding variable speed)	°C/°F	F	0.1	20	2	
F5	Fan	Evaporator fan cut-off temperature (hysteresis 1°C)	°C/°F	F	F1	50	50	
F6	Fan	Maximum evaporator fan speed	%	A	F7	100	100	
F7	Fan	Minimum evaporator fan speed	%	A	0	F6	0	
F8	Fan	Evaporator fan peak time (0=function disabled)	s	A	0	240	0	
F9	Fan	Select fan control with output PWM1/2 (0=pulse / 1=duration)	-	A	0	1	1	
F10	Fan	Evaporator fan forcing time at maximum speed	s	A	0	240	0	
	Eud	Electronic expansion valve parameters - See manual						
In	CnF	Type of unit (0=slave / 1=master)	-	C	0	1	0	
Sn	CnF	Number of slaves in the local network (0=no slave)	-	C	0	5	0	
H0	CnF	Serial or master slave network address	-	C	0	199	199	
H1	CnF	Configuration of output AUX1	-	C	0	11	8	
H2	CnF	Disable keypad and remote control functions (1=all enabled)	-	A	0	5	1	
H3	CnF	Remote control enabling code (0=no code)	-	A	0	255	0	
H4	CnF	Terminal buzzer (if present) (0=enabled / 1=disabled)	-	A	0	1	0	
H5	CnF	Configuration of output AUX2	-	C	0	11	8	
H6	CnF	Terminal keypad lock configuration	-	A	0	15	0	
H7	CnF	Configuration of output AUX3	-	C	0	11	8	
H8	CnF	Output switched with time bands (0=light / 1=aux)	-	C	0	1	0	
H9	CnF	Select function associated with the "aux" button (0=light / 1=aux)	-	C	0	1	0	
H10	CnF	Configure compressor digital output logic (0=direct /1=reverse)	-	A	0	1	0	
H11	CnF	Configure evaporator fan digital output logic (0=direct /1=reverse)	-	F	1	14	1	
	CnF	rHx parameters for anti-sweat function parameters - See manual						
	Hst	Alarm log parameters - See manual						
	HcP	HACCP alarms parameters - see manual						
	rtc	Real Time clock parameters - See manual						

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